UNIT 1 SEMANTIC HOLISM AND RADICAL INTERPRETATION

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1.0 OBJECTIVES

Hermeneutics poses serious problems for epistemology, as traditionally conceived. The aim of this last block is to examine those challenges and see the newer directions epistemology has taken. This first unit of this exploration will introduce us to one of those major challenges and help us examine the seriousness of this challenge. The challenge is that of semantic holism or the idea that individual words and expressions have meaning only in a context and not independently. Analysing this notion and its cousin, hermeneutic circle, we shall also trace the limits of holism. In the course of this unit we gain familiarity with key ideas such as

- Holism and semantic holism
- Two dimensions of the hermeneutic circle
- Radical translation/interpretation

1.1. INTRODUCTION

"Recent Obituaries of Epistemology" is the name of an article. *The Crisis of Philosophy* is the title of a book dealing primarily with epistemological issues. These give us an idea of the despondency felt in philosophical circles about philosophy in general and epistemology in particular. At the heart of this crisis is the development of hermeneutics and the challenge it poses to the manner in which epistemology was done in the past. Richard Rorty, one of the most famous postmodern philosophers of the twentieth century, put the matter in his characteristic, dramatic fashion when he said, "I am not putting hermeneutics forward as a 'successor subject' to epistemology…. On the contrary, hermeneutics is an expression of hope that the cultural space left by the demise of epistemology will not be filled"! Assuming that epistemology is indeed dead (in reality, it is far from being dead), it was done in by two lethal bullets or to use a better imagery, one cluster bomb with two deadly explosives. The name of the bomb is hermeneutic circle and its deadly explosives are semantic holism and theory laden observations. In this unit and the next, we shall put our bomb squad to work, analyse these explosives to see how deadly they are. This unit is concerned with semantic holism and its limits. We shall see that beyond a point, this explosive is harmless. And the limits of holism are encountered in radical translation/interpretation.

1.2. THE "DEATH" OF EPISTEMOLOGY

If we look into any philosophical journal we will find that epistemological issues are prominently featured in them. If so, what do the so-called death-certificates of epistemology amount to? In order to answer that question, we need to focus on the specifics. Let us focus on Rorty's claim. What does he mean by 'epistemology' whose death he proclaims? Epistemology, of course, is the study of human knowledge. But 'knowledge' could be understood in a broad sense as well as a narrow sense. Broadly understood, knowledge is the information of which we become aware. Study of knowledge or epistemology would then be seen as the attempt to understand the nature, structure, limits and conditions of our cognitive achievements. When epistemology is understood in this broad sense,

even the one who argues that objective knowledge is impossible is engaged in doing epistemology. Epistemology, in other words, is not identical with a positive view regarding the possibility of truth and knowledge. Upon this broad construal of epistemology, then, it makes no sense to talk of the demise epistemology.

When Rorty talks about the demise of epistemology he has a narrower view of knowledge and epistemology in mind. If epistemology knowledge is not understood generally in terms of information, but as justified true belief, with much of the discussion turns on justification. The primary task of epistemology, then, is like that of an examination board testing the candidates to truth (called beliefs or propositions) and declaring whether the candidates have passed the examination (true) or not (false). We could also say that the epistemological task is to adjudicate between propositions competing for the status of truth; and this is done by means of justification. From the argument of Rorty, it is pretty clear that he takes epistemology in this narrower sense of justification of beliefs; and his claim is that hermeneutics makes it impossible to pass from belief to knowledge.

Just as there is a broad and a narrow way of understanding epistemology, so also there is a broad and narrow way of understanding hermeneutics. In the narrow sense, it stands for that continental school of philosophy which began with Friedrich Schleiermacher and re-invented itself many times in the works of Wilhelm Dilthey, Martin Heidegger and others. Hermeneutics, as understood by Rorty, however, does not stand for this continental development alone. Rather, it is understood broadly as a cumulative trend that challenges the epistemological concern with justification. In this sense hermeneutics includes, besides the said continental school, some of the claims made on behalf of the later philosophy of Wittgenstein, trends in sociology of knowledge and post-empiricist philosophy of science like that of Thomas Kuhn and postmodernism. These varied voices apparently show that epistemology understood in the sense of the tribunal that adjudicates among rival claimants to truth is merely a decaying corpse of yesteryears.

1.3. THE ARGUMENT AGAINST EPISTEMOLOGY

The various arguments from hermeneutics against epistemology seem to coalesce into a general pattern that contends that the findings of hermeneutics show that we cannot have a neutral territory or common ground to stand on, and decide on the objectivity of truth. To use the language of Rorty, epistemology proceeds on the assumption that "all contributions to a given discourse are commensurable" and hermeneutics struggles against that assumption. And by "commensurable" he means "able to be brought under a set of rules" such that the contending sides to a cognitive conflict can reach a rational agreement. This set of rules acts as a "permanent neutral framework", a "ground" that is common to all discourse which enables the different sides to come to an agreement. The situation is something like this. When the different teams gather in South Africa for the World Cup Football, there is already a set of rules in place on the basis of which games are played and the winners are decided. Those rules of the game function as the neutral framework within which agreement on victory and defeat becomes possible. But what would happen if each team were to come with its own different rules? Then it would be impossible to play the game or conduct the World Cup. The claim of incommensurability is something similar. The coming of hermeneutics and the holistic character of all understanding is said to undermine the possibility of a neutral framework or common set of rules and therefore, the possibility of commensurability of all discourse. "We will not be able to isolate basic elements except on the basis of prior knowledge of the whole fabric within which these elements occur". Epistemology is impossible because it seeks agreement on the basis of neutral grounds and a common set of rules, and hermeneutics tells us that there are no such grounds. This is the claim.

Check Your Progress I

Note: a) Use the space provided for your answer

b) Check your answers with those provided at the end of the unit

1) What are the two ways of understanding epistemology?

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2) What is Rorty's argument against epistemology? What does he mean by 'hermeneutics' in that argument?

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1.4 HOLIMSM AND HERMENEUTIC CIRCLE

At the heart of this claim to incommensurability lies holism. The basic principle of holism was given by Aristotle in *Metaphyisics*: "The whole is more than the sum of its parts." It says that the system or the "whole" is not determined solely by its components; on the contrary, the system plays an important role in making the parts what they are and the way they behave. There are different kinds of holism. What we have just described is ontological holism or holism of "things". The kind of holism at work in incommensurability has to do with meaning (semantic holism) and justification (epistemological holism).

For a variety of historical reasons, much contemporary epistemology makes no clear distinction between meaning and truth, understanding and justification. But *prima facie*, this is an important distinction. There is hardly any difficulty in understanding a statement like "There is life on Mars"; but understanding that claim does not mean that we have any reason for believing it to be true. In order to believe it to be true we need to engage in evidential procedures. That is epistemic justification. Justification requires understanding the statement to be justified, but understanding does not amount to justification. Therefore we shall maintain this distinction understanding and justification. In this unit we shall focus on semantic holism and leave epistemological holism to the next. In examining semantic holism, our task would be to examine whether different languages are so incommensurable and to create an unbreakable barrier between them.

Semantic holism is about meaning. Let us look at it this way. All of us use language. Language is made up of words and sentences. People reading sentences like "This is an orange", "Thomas is my uncle", etc. understand what is being said, i.e., understand their meaning. But how do individual linguistic expressions get their meaning? Do they possess meaning on their own, or do they have meaning only when individual expressions get related to other expressions and to the larger system of language? Semantic holism is the view that individual expressions get their meaning only in relation to the larger whole of which it is a part; apart from the system in which it is a part, expressions do not mean anything. We saw this in connection with Wittgenstein's language games. An expression like "This is king" has any meaning only in relation to the whole game of chess and the rules by which that game is played; independently of that system of rules, the wooden piece on a chess board cannot be understood as 'king'. Semantic holism, then, contends that linguistic expressions gain meaning by the place they occupy in a system of language and the rules of that system. In the language of analytic philosophy, meaning of an expression E is constituted by language L, of which E is part. Therefore, in order to grasp the meaning of E, one must already be familiar with L.

This relationship between the part and the whole is also the basic contention of hermeneutic circle. Hermeneutic circle is a version of holism, coming from a completely different philosophical tradition, except that hermeneutics talks more about understanding than about meaning. Probing the process of understanding hermeneutic thinkers come to the conclusion that any understanding is dependent on pre-understanding. This is almost identical to the claim just made that the meaning of an individual expression E is constituted by the language game L of which it is a part. Hermeneutic circle, understood in this fashion, is a version of semantic holism. It tells us that understanding is always an inside job: only a person with the requisite pre-understanding is in a position to understand.

At one level, hermeneutic circle makes us aware of an obvious truism that is at work in any and every instance of understanding. Take an example: imagine a situation where a non-specialist walks into a conference of specialists, say of microbiology or quantum physics or even some technical philosophy. Our visitor hears words being uttered, diagrams being drawn, and so on, but can make no sense of what is going on, whereas the specialists present in the room follow the arguments and the discussions. The difference between the one who understands the one who does not is that the one who understands has the requisite linguistic and conceptual resources (pre-understanding) whereas the other one lacks the needed resources. Understanding, in other words, is indeed an inside affair. Only the one who has the requisite pre-understanding is able to understand, and not the outsider.

Hermeneutic circle also tells us something more. It makes us realize that understanding is not the grasp of some static thing called "meaning". Understanding, rather, is a dynamic process that could take place at various levels. A person with a minimal pre-understanding will have a minimal understanding whereas another with greater pre-understanding will have greater understanding. Richard Rorty gives us a good example when he tells us that "coming to understand is more like getting acquainted with a person than like following a demonstration. In both there is a back and forth between guesses about how to characterize particular statements or other events and guesses about the point of the whole situation until gradually we feel at ease with what was hitherto strange." Yes, this constant back and forth between the particular (part) and the whole leads eventually to a deeper understanding where there is a feeling of being at home, a sense of understanding. To take another example, if a beginner were trying to understand the technical parts of the philosophy of W.V. Quine or Donald Davidson by going directly to one of their more technical works, the text would remain largely opaque to the person. On the other hand, someone with *some* familiarity with the author's work as a whole will have some understanding of the present text that is difficult; that familiarity with one text, in turn, helps the person to have a better grasp of the whole philosophy of the author; this increased understanding of the whole philosophy, in turn, enables the person to understand even more difficult parts, and so on, the process continues. Hermeneutic circle, in other words, tells us that understanding is a spiralling, deepening process where the greater one's familiarity with the whole, the greater the grasp of the parts and vice versa. The greater the pre-understanding, the greater the understanding. This back and forth between the parts and the whole makes us aware of the possibility of progressive understanding. In this respect, hermeneutic circle tells us something more than semantic holism. It tells us that understanding is a dynamic, circular process whereby the whole illumine the parts and the whole, in turn, is understood in terms of its parts.

1.5. THE LIMITS OF HOLISM

The fact that semantic holism and hermeneutic circle involve circularity raises a problem: how does one get into the circle? If grasping the meaning of E in language L requires familiarity with L, how does one acquire language L in the first place? How does one acquire a new language? If every understanding is dependent on a prior understanding, how does one acquire that first pre-understanding? While hermeneutic circle does not answer this problem of language acquisition, it does tell us that understanding is not an all-or-nothing affair but a matter of degrees that can vary from having no understanding to having a perfect understanding. On the one extreme are those with no pre-understanding and hence do not understand at all, like the outsider in a specialists' conference in our earlier example. On the other extreme there are those with the maximal pre-understanding who understand the proceedings best.

Our examples also make us aware of the limits of semantic holism and hermeneutic circle. If someone with no background in physics were to walk into a conference that discusses the latest theories in that field, our outsider will obviously not understand the matter under discussion. On the other hand, no person, in principle, is denied access to understanding that discourse. Someone who has no knowledge of physics can be introduced to it—beginning with some of its rudimentary concepts and eventually proceeding to more advanced theories— such that eventually the person can be brought to understand and participate in the conference of the physicists. The fact that an outsider can become an insider, one who lacks the requisite pre-understanding can eventually acquire it, shows that hermeneutic circle is not a closed circle. It is as if the circle begins to straighten out at certain point and the semantic fortress opens its gates to the outsiders. What we need to find out is the point at which the circle begins to straighten and where the gates of the fortress are located. Those gates are to be found in the observation sentences as conceived by W.V. Quine in his theory of radical translation.

Let us recapitulate the undeniable facts about understanding. First, there is semantic holism: the meaning of an individual expression is to be found in the system or the whole of which that expression is a part. In other words, all understanding is dependent on some pre-understanding; it is always an inside affair. Second, Understanding is not a static all-or-nothing affair but a dynamic process that shuttles back and forth between the parts and the whole. Therefore, understanding can vary from complete lack of understanding to perfect understanding. Third, hermeneutic circle is not a closed circle. Though all understanding is an inside affair, no one is excluded, in principle, from entering into the circle. All these three factors need to be taken into account by a good theory of understanding.

Check Your Progress II

Note: a) Use the space provided for your answer

b) Check your answers with those provided at the end of the unit

1) Explain semantic holism.
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2) What does hermeneutic circle tell us about understanding that is not obvious in the idea of semantic holism?
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3) Give an example to illustrate the hermeneutic circle
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4) Give an example to illustrate that the hermeneutic circle is not a closed circle.
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1.6. RADICAL TRANSLATION/INTERPRETATION

Willard Van Orman Quine (1908-2000) is one of the most influential American philosophers of the twentieth century who helped us to rethink the way we conceive of the relationship between language and the world. Coming from the empiricist, analytic tradition, he came to be known first, for his attack on empiricism with his essay "Two Dogmas of Empiricism". Although coming from the Anglo-American analytic tradition, with its strong emphasis on formal logic, his advocacy of holism, as opposed to the atomism of the earlier empiricists, shows affinities between his analytic philosophy and the hermeneutic thinking of the continental tradition. But there is a difference. Even while criticising the atomism of the logical empiricists, he maintains his affinity with their scientific leanings, especially their fascination with the scientific procedures and its reliance on logic and observation. Because he is critical of the atomism of the earlier empiricists, he is faced with a question like the one we have raised: how does one acquire a new language or how does one change one's status from being an outsider to an insider?

Although Quine does not raise the question in these terms, the kind of situation he describes in radical translation is relevant to our question. Radical translation is a thought experiment, conceived by Quine in the 1950s. It places us in a setting where a field linguist has to translate into his native language (say, English) the language of some hitherto unknown tribe. Their language (Quine called it 'Jungle') is not historically or culturally related to any known language. It is further assumed that the linguist has no access to any bilinguals versed in English and Jungle, and that there are no translation manuals available where the linguistic equivalents of words from Jungle to English or vice versa, can be found. These features of the thought experiment are very important because it is these that make the translation radical. It is like learning a completely new language with no teacher and no books to fall back upon. In undertaking radical translation all that our field linguist has to go by is the behaviour of the Jungle speakers in publicly recognizable circumstances. For example, a rabbit scurries by and the Jungle speaker utters "Gavagai". From this the linguist suspects that the utterance is prompted by the appearance of rabbit and he tentatively concludes that the utterance "Gavagai" is to be taken as a one-word sentence and translated as "Lo, a rabbit" or "Here-is-a-rabbit" in English. But the radical translator cannot really be sure. It could be the rabbit; it could be the

running of the rabbit, a part of the rabbit, or any number of other things. But from his later interaction with the native on similar occasions he is eventually confirmed or disconfirmed in his view that “Gavagai” means “Lo, a rabbit”. These later occasions would include situations when the linguist would quiz the native “Gavagai?” with the intention of eliciting the native’s assent or dissent. “The linguist notes the native’s utterance of ‘Gavagai’ where he, in the native’s position, might have said ‘Rabbit’ and looks to natives for approval. Encouraged, he tentatively adopts ‘Rabbit’ as translation.” It is only after a process of sufficient trial and error that the linguist is able to conclude that “Gavagai” means “Lo, a rabbit”.

The original point of the discussion on radical translation was to show the indeterminacy of meaning. Donald Davidson used the same thought experiment with a different emphasis and called it radical interpretation. Both the theories (radical translation and interpretation) and their implications are extensively debated and the debates still continue. Moreover, Quine himself has changed the details of his theory. Those detailed and often technical debates are not important for our purpose of answering whether the utterances of a completely alien community can be accessed by an outsider. But a little background can help us understand their positions.

For the logical positivists, observation was the cornerstone of their thinking. It provided evidence for theories as well as the foundations of meaning. Since it was so central to everything else, they set out finding rigorous criteria for identifying it and talked in terms of the “pure given” in observation as opposed to all that the observer brings to it (such as concepts that enter into our reports of observations). The rest of language gets it meaning form the “pure given”, which was supposed to be fixed. Eventually they came to the realization that “pure given” is a myth (Wilfrid Sellars). Quine’s thesis about the indeterminacy of meaning must be seen in this background of the positivist attempts to fix the meaning of observation sentences in terms of the given in experience. The idea is that publicly observable evidence could be interpreted in very different ways. The publicly observable factors in the given example are: (1) the physical stimuli of the rabbit; (2) the verbal stimuli from the native (“Gavagai”). But this slender evidence could be used to translate “Gavagai” in different ways, as we have noted. This was Quine’s point in proposing the experiment.

Neither Quine nor Davidson leave us in any doubt that the utterances of an utterly alien community can be accessed by an outsider, although it is not easy and involves a long process. Davidson, in one of his well known articles (“On the Very Idea of a Conceptual Scheme”), even argues explicitly against radically different or incommensurable systems of beliefs. In discussing radical translation/interpretation, we will be concerned only with this common insight that in spite of semantic holism different languages and cultures are not completely inaccessible to one another. Seen in terms of accessibility to a radically alien language community, we do not even have to think of it as a thought experiment; it is something that has been done many times in the past by pioneering explorers and zealous missionaries who made totally alien languages and cultures their own. Their first attempts had the characteristic features of the situation that Quine describes. Only after their pioneering efforts at radical translation, could any translation manuals and bilingual dictionaries come into existence. It is only in our contemporary globalised village where hardly any language or culture remains radically alien, do we have to think of radical translation/ interpretation as a thought experiment.

1.7. OBSERVATION SENTENCES

The key to radial translation/interpretation is to be found in “observation sentences”. As the name indicates, “observation sentences” are reports of observation. Although Quine has given up the earlier versions of empiricism, he still finds the need to give some special status to observation. One of the reasons that prompts him to give this special status is the fact it is possible to learn a new language irrespective of whether it is by the radical translator or the child learning his first language. Observation sentences, he says, “are the infant's entry to language. For much the same reason, they are the radical translator's way into the jungle language”. Observation sentences can do this job, because they have some special features. First of all, they are somehow more directly linked to the world than theoretical language and therefore, “free of the indeterminacies that beset the translation of theoretical sentences and can be learned …by ostension” i.e., by pointing to things. They are “strongly conditioned to concurrent sensory stimulation rather than to stored collateral information."

We must make a qualification here. As an advocate of holism, he is perfectly aware that all observations are not of this kind. Therefore he speaks about "degrees of observationality". Some observation sentences contain more collateral information than others. He illustrates:

> A chemist learns about compounds of copper in the course of his reading and experiments, and a physician learns about the facial symptoms of an overactive thyroid; in due course the one comes to recognize the presence of copper by a glance at the solution, and the other to recognize hyperthyroidism by a glance at the patient. The sentence 'There was copper in it' has become an observation sentence for the one, and 'He's a hyperthyroid' for the other.

Such learning by the chemist and the physician is a later development. For this later development to take place there must be some observation sentences that are more primitive; sentences that "are keyed directly to a range of perceptually fairly similar global stimuli…" It is these fairly "pure" cases of observation that are necessary for radical translation. Only they can function as the child's port of entry into a language. Quine's examples of "pure" observation sentences include, 'It's cold', 'It's raining', 'That's milk', 'That's a dog'.

A second characteristic of such "pure" observation sentences is that they are universal. They could be said to be universal in two senses. First, they are universal to the speakers of a language. This would exclude the kind of specialized collateral information available to the chemist and the physician in the above examples. Second, they can also be said to be universal to our species. They are the "common coin, shared reference points", says Quine. But we must not take this universality to mean that the words of any particular language are universal; that is obviously false. Rather, it should be understood as pointing to an evolutionary heritage whereby we cluster the stimuli received from the environment in certain ways and not in other ways so that we identify, recognize and classify what we perceive in certain characteristically human ways.

This connects us to a third characteristic of "pure" observation sentences: innateness. According to Quine, they are the human counterpart of animal cries. Just as the animals have "repertoires of distinctive calls and cries for alerting one another to the distinctive dangers and opportunities", so do we. If our observation sentences are the human counterpart of animal cries, these must be innate to us. But Quine does not use the language of innateness; he talks of it as "a preestablished intersubjective harmony" at the bottom of which lies instinct and natural selection. In other words, at the most primitive levels of our perceptual interaction with our natural surroundings, we do have some common pre-understanding that is a part of our evolutionary heritage as a species.

There is nothing terribly exciting about any of these characteristics of observation sentences. But together, the three (link to the world of extra-linguistic reality, universality, and innateness) make it possible for us to cross over to different languages, cultures and conceptual schemes. They enable complete strangers to enter into the kingdom of understanding absolutely alien languages and cultures and thereby extravagant claims of incommensurability are shown to be unwarranted.

Does the possibility of radical translation undermine the basic insight of the hermeneutic circle that understanding is always an inside job? Not at all; otherwise there would be no need for the radical translator to get the assent or dissent of the native to his question "Gavagai?" All that radical translation does is to open up an entry port to the outsider. Although the entry port is kept open to the outsider, it is the insider (the native) who decides whether the outsider qualifies to enter; the outsider can apply, but the insider issues the visa. The insider makes the judgment as to whether the radical translator has understood his language correctly. In this way radical translation opens up an entry point to the outsider without undermining the hermeneutic character of all understanding.

Check Your Progress III

Note: a) Use the space provided for your answer

b) Check your answers with those provided at the end of the unit

1) What makes a translation radical?

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2) What are the features of "pure" observation sentences that makes radical translation possible?
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3) Radical translation does not undermine the basic hermeneutic insight. Explain.
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1.8. LET US SUM UP

The linguistic turn of philosophy, especially the hermeneutic developments, has profound implications for epistemology. Sometimes these implications are said to be so drastic that all that remains to be done with it is to bury its corpse (as it is already declared dead)! One of the reasons for making this declaration is the alleged incommensurability arising from hermeneutic circle. Incommensurability is the denial of neutral grounds. This denial could be either in terms of understanding or in terms of justification. The former tells us that all understanding takes place within a circle of pre-understanding and therefore, understanding across different linguistic and cultural frameworks is impossible. Examining this claim more closely we came to the conclusion that while circularity involved in understanding is undeniable, a subset of observation sentences are more or less common to us as a species and they prevent us from being enclosed into our own circle.

1.9. KEY WORDS

Incommensurability is the idea that two theories, languages or conceptual schemes cannot be compared because there is no common measure or neutral grounds on which to do so. At the level of understanding it means that two people with their different ways of understanding will not be able to understand each other because even while using the same words they mean different things. At the level of epistemology it means that there is no neutral evidence by which two competing claims to knowledge (or theories) can be adjudicated.

Semantic holism: The idea that the meaning of an individual expression is to be found in its relation to the system of language of which it is a part.

Radical Translation: Translation of expressions from a completely alien language from the scratch, without the mediation of any bilingual persons or manuals.

1.10. FURTHER READINGS AND REFERENCES

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1. Knowledge in the broad sense is any information, of which human beings are aware of. Epistemology, as study of knowledge, then is the study of the nature, structure, limits and conditions of human knowledge. Knowledge in the more technical sense is justified true belief and accordingly epistemology is the reflective process focussed on the justification of beliefs.

2. Rorty, focussing on the narrower sense of epistemology, argues that epistemology requires neutral grounds on the basis of which competing truth claims can be adjudicated. Hermeneutics, with its notion of the inevitability of prior beliefs and understanding makes such adjudication impossible, i.e., different discourses are incommensurable. By hermeneutics Rorty means not only the continental hermeneutic tradition, but also the philosophy of later Wittgenstein, post-empiricist philosophy of science, sociology of knowledge and postmodern views.

Answers to Check Your Progress II

1. Semantic holism is the view that that the meaning of an individual expression is to be found in its relation to other expressions in the system of language of which it is a part. It rejects semantic atomism, or the view that individual expressions can have meaning independently of other expressions.
2. Semantic holism might give the impression that meaning of expressions is a static one way relationship of parts to the whole. But hermeneutic circles tells us that the relationship between parts and the whole is mutual (parts are understood in terms of the whole and whole in terms of parts). It also tells us that this back and forth between parts and the whole makes understanding is a dynamic process of deeper and deeper understanding.
3. If someone who is not familiar with analytic philosophy tries to read some of his works will hardly understand what is being said there. But someone who has some familiarity with analytic philosophy and the general ideas of Davidson tries to read the same book, will understand the text better. This understanding one book, in turn, helps the person to have a greater grasp of the whole philosophy of Davidson. This greater grasp of the whole in turn helps the person to understand parts of his philosophy better and son, the circle continues.
4. A total stranger to the philosophy of Davidson, can be introduced to it in a very non-technical way. The result would be a minimal understanding of his philosophy, but it suffices for the person to explore further. It shows that no one, in principle, is excluded from understanding a discourse. Therefore, hermeneutic circle is not a closed one.

Answers to Check Your Progress III

1. There are two characteristics that makes a translation radical. One is that none of the speakers of the two languages (the language being translated, and the language into which translation takes place) have had any contact with one another in the past. A second characteristic follows from this: there are no bilingual aids (interpreters, dictionaries etc.) available to the translator. All that the radical translator can rely upon are the verbal utterances and expressions of the speaker in the presence of stimuli on publicly observable circumstances.
2. There are three characteristic features of "pure" observation sentences that make radical translation possible. (1) They are not dependent on collateral information and are more directly linked to the world than theoretical

sentences. (2) They are common to us as a species, and (3) they are the human counter parts of animal cries and therefore, innate to us as an evolutionary heritage.

3. Radical translation does not undermine the basic insight of the hermeneutics that understanding is a circular process. Observation sentences only function as a port of entry into the language. But the competent speakers of the language remain the competent authority to decide if the newcomer's understanding is adequate. This is indicated by the assent/dissent of the native to the attempts of the radical translator.

UNIT 2 EPISTEMIC HOLISM AND THEORY LADEN OBSERVATIONS

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2.0 OBJECTIVES

Richard Rorty's claim about the demise of epistemology (seen in the last unit) is based on incommensurability or the impossibility of a neutral framework within which cognitive disputes can be resolved. And the main reason cited for incommensurability is the hermeneutic circle. Hermeneutic circle, having at once a component of understanding and a component of knowledge, involves semantic holism as well as epistemic holism. Of these, we examined the semantic holism in the last unit and found that it does not have kind of lethal quality that would make understanding an alien language impossible. What remains to be examined is epistemic holism to see if it leads to incommensurability. We shall do that in this unit. Its basic purpose is to introduce the students to the question whether claims to incommensurability and the impossibility of epistemology follow from epistemic holism. In the process we shall examine various versions of epistemic holism and claims to theory laden observations –from the confirmation holism of the Quine-Duhem thesis to Rorty's claim that epistemic justification is a matter of social convention.

2.1. INTRODUCTION

Ordinarily we take direct experience (in the form of observation and perception) as the ultimate test of something being true, and hence basic to epistemology. The assumption is that such experience, also called empirical evidence, provides the neutral grounds on which we can decide the truth of contested truth claims. But it has become common place in contemporary philosophy to say that observations are not neutral, that they are theory laden. If so, epistemology would seem to be impossible as there are no neutral grounds on which to determine the truth of statements. This is epistemic incommensurability. Does this conclusion really follow? In order to answer this question we need to examine epistemic holism, i.e., holism regarding justification of beliefs which comes in various hues and colours. We shall begin with confirmation holism, one version of epistemic holism, and move on to the different versions of theory laden observations that supposedly make epistemology impossible.

2.2 CONFIRMATION HOLISM

Confirmation holism is also called Quine-Duhem thesis after its proponents. Pierre Duhem suggested that the truth of individual statements cannot be determined apart from the theory of which they are parts. W.V. Quine (whose theory of radical translation we studied in the last unit) extended the idea and argued that not only single statements, but even single theories cannot be tested in isolation from other theories, and even from the whole of science. Taking Duhem and Quine together, confirmation holism is the view that individual statements or theories cannot tested for truth in isolation from other sentences and theories in the background. A sentence or a theory or hypothesis is always a part of a larger whole and can be tested only within that larger whole. In the words of Quine, "our statements about the external world face the tribunal of sense experience not individually but only as a corporate body." This has the consequence that no individual observation can fully determine the truth or falsity of any given theory. Because of this consequence, confirmation holism is also known as the underdetermination thesis, the idea that a theory or hypothesis, taken in isolation from other theories or hypotheses cannot be tested by observation to determine its truth. It is another way of saying that "rival theories of the world can be equally warranted by observations": the same observational evidence can support rival theories of the world.

Consider an example. Astronomers of the 19th century observed that the planet Uranus did not follow the path predicted by Newton. If observations were to determine the truth of a theory, then, this observation should have been taken as indicating the falsity of Newton's theory. But this could not be taken as a straightforward evidence for the falsity of Newton's laws because there were other possible explanations: there could be some as yet unknown factor that makes Uranus behave the way it did; it may also be the case that God was making nature behave in this peculiar fashion to expose the hubris of modern science. The point is that observation is not directly keyed on to any one theory; there could be alternative theories that explain the evidence. Eventually not rejecting Newton's theory turned out to be wise. The observed deviant behaviour of Uranus was indeed caused by an unknown planet affecting the path of Uranus; and that planet (Neptune) was discovered in 1846.

2.3 IMPLICATION: COHERENTIST JUSTIFICATION

Implication of not being able to test any single theory in isolation is that an unfavourable test result cannot be taken as the refutation of one's favourite theory; it can always be argued that the unfavourable result is due to the falsity of another theory. To quote Quine again, "the total field [of science] is so underdetermined by its boundary conditions, experience, that there is much latitude of choice as to what statements to reevaluate in the light of any single contrary experience." This questioning of any *direct* link between theory and observation is significant because it undermines foundationalist metaphor of knowledge as an edifice that is built brick by brick on the firm and unshakeable foundation of observations. Confirmation holism tells us that our beliefs and our theories are not individual stand-alone items but always in relation to other beliefs and theories. The foundationalist metaphor now comes to be replaced with the boat metaphor, given by Otto Neurath.

We are like sailors who on the open sea must reconstruct their ship but are never able to start afresh from the bottom. Where a beam is taken away a new one must at once be put there, and for this the rest of the ship is used as support. In this way, by using the old beams and driftwood the ship can be shaped entirely anew, but only by gradual reconstruction.

This mode of justification is called coherentist justification. This metaphor and coherentist justification could be understood in different ways, some more problematic than others. There is one form of coherentism that leads to extreme relativistic conclusions. Relativism also comes in various forms. Epistemological relativism denies that there could be any universal agreement on matters of truth. Denying the possibility of universal agreement, it holds that truth or falsity of a statement is relative to a social group or individual. Our interest is in finding out whether coherentist justification necessarily leads to this kind of relativism, and if it does, what form of coherentism leads to it.

First, Neurath's boat metaphor could be taken to mean that at no point are we without any beliefs, standing on a cosmic Archimedean point to survey the different theories and evaluate them from the outside. Once we are in the middle of the sea, we cannot get to the shore to build a new ship; we do not have "God's eye view" as Hilary Putnam called it. Let us call it the "no-zero point" thesis. It is hard to dispute this thesis and has come to have general acceptance among scholars. But does it lead to the extreme form of relativism we are concerned with? It is often thought that adopting coherentism leads to this conclusion. But it need not. To see that we must realise the two different things that the modern foundationalists attempted to do. One was doing epistemology from "God's eye view", looking at all our beliefs from the outer space, as it were, without presupposing any beliefs. The second is privileging certain beliefs as neutral, in terms of which other beliefs were accepted or rejected. (In empirical epistemology, the privileged beliefs are observational ones). Privileging some beliefs over the others is quite different from saying that we do not begin on a *tabula rasa* (blank slate) standing outside all beliefs. Therefore, the acceptance of the "no-zero point" thesis does not mean that no beliefs –whether observational or otherwise— have a privileged status. In other words, even after rejecting the traditional foundationalist attempts to build an epistemology from "God's eye view", one can still privilege some beliefs. This would be a moderate kind of foundationalism where we are always within a "web of beliefs", to use an imagery of Quine. But the web of beliefs he talks about is not a free floating balloon that moves in whichever direction the wind blows. Our web of beliefs is usually dynamic and in that sense, surely floating in the air; but it is also firmly tethered to the earth at certain points so that the balloon is not blown away by the winds. It is this tethering to reality that makes it possible to correct errors and acquire better ways of understanding reality. And this tethering is done with the help of observation sentences in Quine's philosophy. But this moderate foundationalism is also a form of moderate coherentism because it accepts the "no zero point" thesis.

Key to differentiating this kind of moderate coherentism from the more extreme forms is that the extreme forms do not privilege any beliefs, including perceptual beliefs. And the reason for withdrawing all privileges is the alleged theory laden nature of observations; there are no "pure" observations. This is the claim that we need to examine in further detail because a version of this claim leads to unacceptable forms of relativism.

In short, confirmation holism with its implied coherentism of justification, does not lead to drastic conclusions about the impossibility of epistemology. Coherentist justification is a mode of justification, after all. All that confirmation holism, on its own, does is to make us aware that the task of justifying our beliefs does not start on a zero point, in the manner in which Descartes and other modern epistemologists tried to do. It does not do away with epistemology; it undermines one particular manner of doing epistemology, epistemology that begins with "God's eye view".

Check Your Progress I

Note: a) Use the space provided for your answer
b) Check your answers with those provided at the end of the unit

1. What is confirmation holism? Why is it called the underdetermination thesis?

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2. A moderate foundationalism is also a moderate coherentism. Explain.

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3. Confirmation holism, on its own, does not undermine epistemology. Explain.

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2.4 THEORY-LADENNESS OF OBSERVATIONS

Although confirmation holism, on its own, does not undermine epistemology, the "no zero-point" thesis of confirmation holism often goes together with a rejection of the privileging of any beliefs. It withdraws all the privileges accorded to observation. The reason for this rejection of privileges is the alleged theory laden nature of observations, that is, the view that our observations are influenced by the beliefs we already hold. One could also say that what we perceive of the world is heavily dependent on the prior theories we already believe. This is a common theme that runs through much contemporary philosophical literature. This is found in the philosophy of science of N.R. Hanson, Thomas Kuhn, Paul Feyerabend, Nelson Goodman, and others. This can be seen as the hermeneutic turn in the philosophy of science. Richard Rorty's stand on epistemology can be seen as a culmination of this trend. This is not surprising because in epistemology, at least in empirical epistemology, observational evidence is taken to be the final arbiter between competing claims to truth. So too, in science: observation is supposed to be the basis on which the truth of rival theories is adjudicated. Now if theory-ladenness of observations is true, if it is really the case that our observations are not neutral between *competing* or rival theories, but those very theories determine what we perceive, then, observation reports cannot adjudicate between rival claimants to truth. Therefore we need to examine this claim very closely.

Hanson drew our attention to the theory laden nature of observations in a very dramatic fashion. He asked us to imagine Johannes Kepler with his heliocentric view and Tycho Brahe with his geocentric view standing together on a hill watching the dawn. When they see the sunrise, do they see the same thing? According to Hanson, when they say, 'I see the sun' each mean something different. This is an excellent illustration of Neurath's boat metaphor in action. He seems to be saying not only that we cannot get off the ship (the "no-zero point" of confirmation holism) but also that all the beams of the boat are on par. Observational beliefs have no privileges because observations belong to the larger gestalt; they are not neutral. Hanson's position can be understood in this manner when he says that Kepler and Brahe do not see the

same thing. And this is the way he has been understood. Taken in this manner, not only would it make epistemology impossible, it would also rule out the possibility of radical interpretation we saw in the last unit. However, Hanson also admits that when Kepler and Brahe stand watching the dawn, "something about their visual experiences at dawn that is the same for both" so much so that "sketches of what they both see could be identical". This only goes to show the basic ambiguity surrounding theory ladenness. There are different ways of understanding theory-ladenness.

The least controversial thesis of theory ladenness is that our observations –at least the observations that can be reported and talked about— involve concepts. Sometimes when Hanson talks about theory laden observations, he seems to mean this. According to him, when we say that Tycho Brahe and Kepler "see the same thing at dawn just because their eyes are similarly affected is an elementary mistake" because being in a physical state is not the same thing as having a visual experience. He goes on to say that one of the influences on observation is "in the language or notation used to express what we know, and without which there would be little we could recognize as knowledge." This unavoidable role of "language or notation" rules out the possibility of any "pure given" in observation that can be separated from all linguistic and conceptual elements. Although the logical positivists tried to do it at one time, their own very rigorous attempts to identify such pure cases led to the realization that such "pure" observation is a chimera. If we mean by "observation" something that can be identified and articulated, then what is observed is not unilaterally determined by what is received by the senses; they are co-determined, so to say, by our existing conceptual apparatus. If we understand "theory ladenness" in this broad sense of being influenced by our conceptual apparatus, such theory ladenness would not rule out there being some observations that are neutral between *rival* scientific theories, because at least a part of our conceptual apparatus that goes into perceptual experience may be common to our species, as is the case with Quine's observation sentences we saw in the last unit.

A second way of understanding theory laden observations is to say that observations are enriched by our cumulative experience. We already saw (in the last unit) Quine giving excellent examples to show how the experienced eyes of a chemist can observe copper in a solution or an expert physician can observe hyperthyroid. One's learning obviously enters into observation in this sense. Hanson's contention about Brahe and Kepler could be understood in this fashion. He says, "the layman must learn physics before he can see what the physicist sees." Let us call it the experiential thesis. This thesis too does not rule out relatively theory neutral observations shared by the specialist and the layperson, the expert and the beginner. It is these relatively neutral observations that enter into radical translation as well as the adjudication of rival claimants to truth. Therefore, the experiential thesis too, does not affect the objectivity of knowledge and science.

A third way of construing theory ladenness is in terms of new discoveries. It says that up-to-date knowledge (learning) in a field is a pre-condition for making new scientific discoveries and breakthroughs. Let us call it the discovery thesis. The very title of Hanson's book (*Patterns of Scientific Discovery*) indicates his concern in that book, which was to comprehend and formulate a logic of scientific discovery. Does the discovery thesis affect the objectivity knowledge? In order to answer that question properly we need to take into account the distinction between discovery and justification, a distinction originally made by Hans Reichenbach. The distinction is best understood with an example.

2.5 A CASE STUDY

Our example is a landmark case in the history of medical science: Ignaz Semmelweis, working as a medical doctor in Vienna General Hospital in the 19th century, noticed the large number of women who delivered their babies in one of the Maternity Divisions of the hospital died of "childbed fever" (Puerperal Fever). A number of factors about these deaths puzzled Semmelweis, including the fact that the death rate was far higher in the First Maternity Division where medical students worked than in the Second Division where ordinary midwives took care of the women. The contrast was as follows:

Year	First Division	Second Division
1844	8.2%	2.3%
1845	6.8%	2.0%
1846	11.4%	2.7%

In order to resolve this puzzling happening Semmelweis began by considering various tentative solutions (called "hypotheses") to the problem. These were some of the possibilities he considered for explaining these excessive number of deaths in the First Division.

1. The deaths are due to an epidemic
2. The deaths are due to overcrowding in the First Division
3. The deaths are caused by the rough handling of the patients by the medical students in the course their examination.
4. The deaths are caused by fear generated by the appearance of priests ministering to the dying patients!
5. The deaths due to the position in which the women in the First Division gave birth. (Women in the first Division delivered babies lying on their backs whereas in the Second division the women delivered lying on their sides).

Now that there are many possibilities for explaining these excessive deaths in the First Division (only 5 of which are mentioned here), the question to consider is which one can be considered true. How is one to rationally accept any of these 5 beliefs or any other that is not mentioned? This is the epistemological task that confronted Semmelweis. He sets about patiently examining each hypothesis. Let us examine how he did it.

Consider the first hypothesis that the deaths were due to an epidemic. If this were true, he reasoned, how could an epidemic selectively affect the First Division and not the Second? That is not likely! Moreover, the newspapers carried no reports of an epidemic in the city. To compound matters, there were some women who delivered their babies on the way to the hospital and were brought into the First division only for postnatal care. Even among them the death rate was comparatively lower than those who delivered in the First Division. All of these militated against the first hypothesis. Therefore, Semmelweis abandoned that as a plausible explanation. The second hypothesis is also easy to check for its truth. Semmelweis noticed that the Second Division was even more crowded than the First (partly because of the bad reputation of the First Division!). Faced with this data, the second hypothesis was also given up. In a similar fashion, each of these hypotheses had to be abandoned. Semmelweis was completely at a loss.

It is then that a colleague of his began to develop symptoms similar to those of the women suffering from childbed fever and in a few days he died. The major difference was that while the women developed the symptoms after childbirth, his colleague developed the symptoms after getting a small wound in the process of performing an autopsy. This leads Semmelweis to suspect that the death of his colleague was caused by blood poisoning or what he considered as the introduction of "cadaveric matter" into the blood stream while performing the autopsy. This prompts Semmelweis to make a brilliant guess that the cause of childbed fever was the same.

Since the medical students who attended to the women in the First Division, unlike the midwives in the Second Division, often came to their maternity duty after performing autopsy on dead bodies without cleaning their hands properly, they were the carriers of infection. Semmelweis tests out this hypothesis by instructing the medical students to properly disinfect their hands prior to their examination of the women. The results were dramatic: a drastic drop in the death rate, even below that of the other Division. This leads Semmelweis to accept the last hypothesis as true. Not only did it explain the high mortality rates in the First Division, it also explained why the mortality rate among the women who gave birth on the road was lower. Although their hygienic conditions were not good, they managed to escape being infected by the medical students!

There are a number of things an epistemologist can learn from cases like this. Our primary concern is with the distinction between discovery and justification. The discovery of the real cause of the unexplained deaths originated in the accidental death of the colleague of Semmelweis and the similarity of the symptoms shown by his colleague and the women who suffered from childbed fever. Because the problem of deaths from childbed fever was weighing on him, Semmelweis noticed the similarities and suddenly the insight dawns of him that the women were dying due to infection caused by the medical students. Similarly when Archimedes cried out "Eureka!" it was because he saw something new. And in coming to that new insight, the problem that was weighing on his mind had an important role to play. Thus we can readily acknowledge that the genesis of a new discovery involves a new kind of seeing, a change of gestalt that Hanson insisted upon.

Then comes the justification. Just because a brilliant idea occurred to him, Semmelweis does not accept it as true; it is accepted only when evidence confirms it. This process can be said of epistemic justification in general. The concern of justification is not so much with how one comes to entertain a belief or hypothesis, but with examining if it is true. Origins of a belief may be as lowly as a lucky guess (as in the case of Semmelweis), a sudden insight (as in the case of Galileo or Archimedes) or the result of a long drawn out empirical study. But what matters to epistemology is not how an idea originates, but how it is justified.

It is not that discovery and justification can be separated. The point is that that discovery always contains an element of irrationality, a moment of creative intuition, as Karl Popper observed in his *Logic of Scientific Discovery*. But this intuition comes to be accepted as true only on the basis of justification which "operates as a kind of controlling device, a sort of feed-back" on the original intuition. This feedback, the evidence on the basis of which a hypothesis comes to be accepted as true, is based on logic and observations that are neutral between rival theories. We shall explore the role of logic in the process in the next unit. What is important for now is that the kind of observation that plays the role of evidence in justification is not the highly ramified type where we can say that Kepler and Brahe are seeing different things, but of the kind that Hanson acknowledges as the same for both. It is similar to the kind of observation (if not the same) that we noted in the context of radical translation, the kind that is more or less common to us as a species. Thus we are led to conclude that our observations are indeed theory laden in three different ways, but none of them undermine the possibility of objective knowledge.

Check Your Progress II

Note: a) Use the space provided for your answer

b) Check your answers with those provided at the end of the unit

1. What is the argument from theory ladenness of observations to the impossibility of epistemology?

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2. What are the three different ways of construing theory-laden observations that do not undermine epistemology?

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3. Explain the distinction between discovery and justification.

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2.6 THEORY-LADENNESS AND JUSTIFICATION

The only kind of theory ladenness of observations that undermines epistemology is the one that rules out the possibility observations that are neutral with regard to *competing* theories in the context of justification. Hanson, Kuhn, Feyerabend and Rorty are often considered to be saying that there are no neutral grounds on which to decide between rival scientific theories. We saw Rorty's claim (in the last unit) that epistemology is impossible because it requires a neutral framework and no such framework is available; different discourses are incommensurable. Rorty takes over the thesis of incommnensurability from Thomas Kuhn's *Structure of Scientific Revolutions*. But whether Kuhn's thesis of incommensurability rules out rational choice of theories is a matter of dispute, to the extent that Kuhn once said, "I am not a Kuhnian"!

But Rorty draws together the contentions of coherentism and incommensurability in a specific manner to argue for the impossibility of epistemic justification. His argument regarding justification comes in two forms. One is a negative thesis and the other positive. The negative thesis is that "nothing counts as justification unless by reference to what we already accept, and that there is no way to get outside our beliefs and our language so as to find some test other than coherence." We have seen that coherentism, on its own, need not lead to conclusions about the impossibility of epistemology. But since he combines it with incommensurability, it would mean that different groups of people and people in culturally different societies have different antecedent beliefs that are incommensurable. Since justification is done in terms of these incommensurable beliefs, it is not a neutral process. There are no neutral grounds on which rationality of incommensurable beliefs can be examined. This form of coherentism, therefore, leads to relativism. If so, not only are we like sailors in the sea, but we are like sailors making different voyages in different ships. This is a fourth way of construing the theory laden observations. His more positive thesis claims that justification is a matter of social conventions and not a matter of allowing reality a say in determining the truth of our beliefs.

How warranted is his negative claim? Given his rhetorical style, it is not easy to discern if Rorty is really doing away with truth and justification or merely dramatizing the impossibility of old

engineering journal suggested that this collapse could have been avoided, had the engineer taken into account the documented series of wind failures in similar bridges. But the engineering fraternity was furious with the author of the article and he was made to recant because they saw it as a slur of their professional behaviour. Allen concludes that such examples should "disabuse philosophers of the notion that knowledge is nothing but the consensus of professional peers… What experts agree is well done need not be so, nor need what they call knowledge be the real thing." Reality has the final say in matters of truth; it can trump even the agreement of the best of experts.

Check Your Progress III

Note: a) Use the space provided for your answer

b) Check your answers with those provided at the end of the unit

1. What are the two versions of Rorty's claim about justification?

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2. Indicate the evidence to show that the claim about the impossibility of theory neutral observation relevant to epistemology is false.

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3. Give an example to show that social conventions do not determine truth.

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2.7. LET US SUM UP

In this unit we considered different forms of epistemic holism to see if they undermine objective knowledge and lead to relativism. Confirmation holism is seen to undermine the form of epistemology that begins on a zero point, but does no serious harm to objective knowledge. Examining five different versions of the claim regarding theory laden observations we saw that three of them do not really rule out theory neutral observations and do not lead to relativism. Two versions, if they were true, could have been lethal to objective knowledge and led to relativism. But both these versions are seen to be untenable. Thus we can conclude that the argument from epistemic holism to the death of epistemology is exaggerated. Observations are indeed theory laden in various ways. But none of them rule out there being a class of observations that are relatively theory neutral.

2.8. KEY WORDS

Epistemological Relativism is the denial that there could be any universal agreement on matters of truth. More positively, it is the view that truth or falsity of a statement is relative to a social group or individual.

"God's eye view" is the name given to the view that claims to have knowledge that only God would have. Hilary Putnam used it describe the foundationalist ambition seeking to get away from the human limitations and have knowledge of the world from the outside, as it were, without any prior beliefs to begin with.

2.9. FURTHER READINGS AND REFERENCES

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2.10. Answers to Check your Progress

Answers to Check Your Progress I

1. Confirmation holism is the view that individual statements or theories cannot tested in isolation from other sentences and theories in the background. A sentence or a theory or a hypothesis is always a part of a larger whole and can be tested only within that larger whole. It is also called underdetermination of theory by observation because confirmation holism has the consequence that no theory or hypothesis, taken in isolation from other theories or hypotheses cannot be tested by observation to determine its truth.

2. Traditional foundationalists attempted to do two things. One was to do epistemology from "God's eye view", looking at all our beliefs from the outer space, as it were, without presupposing any beliefs. The second is privileging certain beliefs as neutral, in terms of which other beliefs were accepted or rejected. A moderate foundationalism reject the "God's eye view" but still considers some beliefs as privileged. But this moderate foundationalism is also a form of moderate coherentism because it accepts all justification is done within a web of beliefs, without giving all the beliefs in the web the same status.

3. Confirmation holism is the view that individual statements or theories cannot tested for truth in isolation from other sentences and theories, of which they are a part. It leads to coherentist justification, which is still a mode of justification of beliefs. All that confirmation holism does, on its own, is to make us aware that the task of justifying our beliefs does not start on a zero point, taking single beliefs in isolation from other. It does not do away with epistemology; it undermines one particular manner of doing epistemology, epistemology that begins with "God's eye view".

Answers to Check Your Progress II

1. Epistemology, especially empirical epistemology and philosophy of science hold that observational evidence is the final arbiter between competing theories and claims to knowledge. This would be possible only if our observations are neutral between the competing theories. If theories determine what we perceive, then, observation reports cannot adjudicate between rival theories. This way theory ladenness of observations undermine epistemology and the possibility of objective knowledge.

2. There are versions of the doctrine of theory ladenness that do not undermine epistemology. One version merely says that our observations and what we report about them, requires concepts. In this version "theory" means concepts. This kind of theory ladenness is generally accepted by all in contemporary philosophy. But it does not undermine the neutrality of observations. A second version that does not undermine epistemology is the experiential thesis. It says that observations are enriched by our experience; "the layman must, learn physics before he can see what the physicist sees." This too, does not undermine epistemology since it does not rule out there being other observations that are more neutral. A third version says that learning in a field is a pre-condition for making new discoveries and breakthroughs in that field. This discovery thesis too does not undermine epistemology as long as the alleged discovery can be substantiated or justified by means of more neutral means.

3. Discovery is about the genesis of a new idea or theory or hypothesis. The concern of justification is not so much with how one comes to entertain a belief or hypothesis, but with examining if it is true. Origins of a belief may be as lowly as a lucky guess, a sudden insight (as in the case of Galileo or Archimedes) or the result of a long drawn out empirical study. But what matters to epistemology is not how an idea originates, but how it is justified.

Answers to Check Your Progress III

1. Rorty's claims regarding justification comes in two forms. One is a negative thesis and the other positive. The negative thesis is that "nothing counts as justification unless by reference to what we already accept, and that there is no way to get outside our beliefs and our language so as to find some test other than coherence." When this is combined with incommensurability, it implies that there are no neutral grounds on which rationality of incommensurable beliefs can be examined. His more positive claim is that justification is a matter of social conventions and not a matter of allowing reality a say in determining the truth of our beliefs. It is a matter of "cultural politics" "than a transaction between 'the knowing subject' and 'reality'".

2. There are at least three factors that show that the claim about the impossibility of theory neutral observations is false: the possibility of radical interpretation, Muller-Lyer illusion, and actual scientific practice. All the three show that there are comparatively pure cases of observation that are not penetrated by competing theories.

3. When Tacoma Narrows Bridge was built in 1940, the American structural engineers would have readily agreed that it was twentieth century engineering at its best. But bridge collapsed within months of its opening because the engineers had neglected to take into account the known effects of wind. It shows that reality has the final say in matters of truth; it can trump even the agreement of the best of experts.

Unit 3: Popperian Method and Naturalized Epistemology

Contents

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3.0 Objectives

Our course has dealt with justification of knowledge rather extensively. In the second block there were units that dealt with the method of justification adopted by pre-modern thinkers and the foundationalist method of the modern thinkers. The third block had a unit on the linguistic turn of philosophy and the challenge it poses for justification, especially the impossibility of a purely foundational justification. In the last two units of this block we found that the extreme claims about the demise of epistemology is unwarranted; only the modern kind of foundationalist epistemology is seen to be impossible. A more moderate form of foundationalism that combines some coherentist features was advocated in the last unit. In this unit we shall explore some further developments in contemporary epistemology, especially what epistemology can learn from the practice of the sciences. By the end of this unit, you will be familiar with:

- The basic idea of naturalized epistemology
- A preliminary understanding of the hypothetico-deductive (H-D) method
- Some Implications of Naturalized Epistemology.

3.1 Introduction

Modern Western philosophy is beset with a paradox: the tremendous explosion of scientific knowledge on the one hand, and an unscientific approach to theory of knowledge, on the other. The modern approach to theory of knowledge, if not unscientific in the sense of going against science, is unscientific at least in the sense that it was not based on what practicing scientists actually do in acquiring knowledge. Naturalized epistemology, including the Popperian method can be seen as attempts to overcome this paradox of modern epistemology. Both seek to learn from the actual practice of scientists to see how knowledge –understood as beliefs that have been justified or given reasons for believing to be true— is acquired and suggest that epistemology should be modelled on their practice. Let us see these in more detail.

3.2 Background to Naturalized Epistemology

The famous philosophical schools of empiricism as well as rationalism are good examples philosophical reflection that neglects the actual process of coming to knowledge. The empiricists talk of knowledge through the senses and the rationalists proclaim knowledge through reason. But both fail to see that we have very little (if any) knowledge that actually comes to us either from the senses or from reason alone. Most of our knowledge is the result of joint working of the senses as well as reason. Ignoring this, they tried to build their foundationalist epistemologies.

Foundationalism, as we saw in the last unit, not only the privileging of some beliefs (whether rational or empirical) but also ambition to build our knowledge from "God's eye view", having no prior beliefs at all. This was the way in which modern thinkers (both empiricists and rationalists) attempted to overcome scepticism, the main difference between them consisted in what each took to be foundational: for the one, sense experience was foundational and for the other undeniable truths of reason (like Descartes' *cogito*) were foundational. With the eventual realization that the whole edifice of our knowledge cannot be rebuilt from the beginning, that too on indubitable truths, disillusionment was bound to set in, which, in turn leads to relativistic claims.

Disillusionment with foundationalism was not the only crisis faced by modern epistemology. There was also the sense that it was powerless even to carry out its main task of adjudicating cognitive disputes. Epistemology was seen by the modern thinkers in the role of a judge whose responsibility it was to pass judgements on candidates to truth. Instead, it was seen to engender disputes within its own ranks. For example, how does one adjudicate between empiricism and rationalism? The result of such disputes is that in spite of its professed goals, the fate of modern epistemology became like that of a village *panchayat* (originally set up to resolve the conflicts of others in the village) where the judges, instead of resolving the conflict, themselves come to blows. It is against these and other crises faced by modern epistemology that we must see the emergence of Naturalized Epistemology.

3.3 Naturalized Epistemology

One cannot discuss the naturalistic turn of contemporary epistemology without taking the name of W.V. Quine. His 1969 essay, "Epistemology Naturalized" is a landmark. This essay begins with the foundationalist attempts of the empiricists to re-build the ship of scientific knowledge on the firm foundations of sense experience. Given that we are sure of our sense experience, if all other knowledge could be derived from these experiences, then the sceptic would be put in his place. This was the hope. Examining the long history of the empiricist attempts to rebuild the body of scientific knowledge in this manner, Quine, comes to the conclusion they have failed. Given this failure of traditional epistemology, Quine suggests that such attempts be given up. In place of such epistemology we need to re-conceive epistemology in a new way. His suggestion is that in the new setting, epistemology be seen as an examination of how we come to have our understanding of the world from the sensory stimulations we receive. This is a factual question to be investigated by psychology and not a matter for armchair speculation. It is for this reason that he makes the bold claim that "Epistemology, or something like it, simply falls into place as a chapter of psychology and hence of natural science." A "conspicuous difference between old epistemology and the epistemological enterprise in this new psychological setting is that we can now make free use of empirical psychology," says Quine. Obviously such a view of epistemology goes against the view that epistemology provides the foundations for sciences.

From this initial suggestion of Quine, naturalized epistemology has developed in various ways. But we will not discuss them all.

In saying that epistemology simply falls into a chapter of science, Quine would seem to be advocating that we bid farewell to traditional epistemology and replace it with psychology. This view is known as Replacement Naturalism. Replacement Naturalism, however, is beset with difficulties. The most important difficulty was perhaps pointed out by Hilary Putnam: it eliminates the normative or evaluative dimension of epistemology. Notions such as a belief being "justified", being "rationally acceptable" are fundamental to any theory of knowledge. What is important is to notice that these notions are unmistakably normative. Without such normative notions there cannot be any epistemology. The biggest problem with naturalized epistemology, according to Putnam, is that it tends to eliminate such normative notions and focuses exclusively on matters of fact, i.e., of how we come to have the beliefs we have. Without the normative, the notion of truth itself disappears since there is no way of arriving at true beliefs; without the notion of truth the notion of evidence disappears since there is nothing to distinguish "right" kind of evidence from the wrong ones. For these and other reasons, replacement naturalism is not a popular view today. What is even more remarkable is that in spite of his recommendation to replace epistemology with a branch of natural science, Quine himself never followed his own suggestion. He has always pursued normative investigations in his epistemological carrier. In his later writings, especially in *Pursuit of Truth*, Quine has toned down his earlier view of replacement naturalism.

A more modest and more popular form of naturalism is called Cooperative Naturalism. This view does not seek to replace epistemology with psychology. It holds that while evaluative questions are essential to epistemology, empirical results from sciences are important and useful for addressing evaluative questions. It holds that empirical findings concerning our psychological and biological limitations and abilities cannot fail to be relevant to the study of human knowledge. Moreover, it can be shown and has been argued that a purely *a priori* armchair approach to epistemology is more an aberration of modern philosophy than the norm. Aristotle and Aquinas, for example, begin their epistemology with a psychology of the human knower. In other words, attention to psychology needs to be seen as necessary for epistemology, not as replacing it. The basic difficulty with Cooperative naturalism seem to be that while it rightly acknowledges the role of psychological findings in the study of human knowledge, its relation to the traditionally important question of justification of knowledge or the relationship between belief and evidence remains unclear.

There is also a broader understanding of naturalized epistemology than the views regarding the role of psychology in human knowledge. Such a view can be found in James Maffie's survey article, "Recent Work on Naturalized Epistemology" (1990). Maffie identifies the distinguishing feature of naturalized epistemology to be the affirmation of continuity between science and epistemology. This is a broad characterization that lends itself to further elaborations. It could even be considered as a version of cooperative naturalism, although its concern is with sciences in general than only with psychology. Maffie discusses various kinds of continuity between sciences and epistemology. We shall limit our discussion to two such continuities: the methodological and the contextual. These can be seen as responses to the two crises we have mentioned: methodological continuity as a response to internal conflicts and contextual continuity as a response to the crisis of foundationalism.

Check Your Progress I

Note: a) Use the space provided for your answer
b) Check your answers with those provided at the end of the unit

1) What prompted Quine to propose naturalized epistemology? What did he suggest?

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2) Discuss the two main forms of Naturalism

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3) How does James Maffie describe naturalism?

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3.4 Contextual Continuity between Sciences and Epistemology

Contextual continuity is the idea that epistemology, like science, does not start with rock bottom foundations that presupposes no other beliefs. On the contrary, both sciences and epistemology are embedded in specific contexts and hence have their presuppositions. Think of the example we considered in the last unit, the case study of how Dr. Semmelweis found a solution to the problem of childbed fever. We see that Semmelweis is not interested in undoing and rebuilding the whole of medical knowledge of his times, (much less the whole of human knowledge!!) Rather, as a trained physician he takes for granted the medical science of his times. But then he comes across a problem for which he had no readymade solutions. It is this problem that prompts his experiments.

Contextual continuity claims that this applies not only to the sciences but to all knowledge. Naturalized epistemology, then, does not seek to rebuild the whole of human knowledge from a few absolutely certain beliefs, as the foundationalists attempted to do. Rather it begins by taking for granted a lot of beliefs that are not problematic. Taking all such beliefs for granted, it focuses upon beliefs that are problematic. Popper is such a strong advocate of contextual continuity that he goes to the extent of saying that "any rational theory, no matter whether scientific or metaphysical, is rational only … because it is an attempt to solve certain problems."

Since naturalized epistemology does not begin with a zero point, it retains some features of coherentist justification, popularly identified with Neurath's boat metaphor we have already

seen. Our knowledge is like a ship and the epistemologist is like the voyager in the ship in the middle of the sea. Even if he notices that his ship is leaking, he cannot come to shore to repair it or get a new one. All that can be done is to repair it even while remaining in it. For that he stands on planks that are relatively healthy and tries to replace other parts that are leaking. So too, with our knowledge: taking for granted those beliefs that are relatively unproblematic, we try to replace those beliefs that are problematic.

On the other hand, science is not purely coherentist either. Notice that there are observable consequences on the basis of which Semmelweis rejects or accepts a hypothesis. This takes us to a discussion of scientific method and the methodological continuity between sciences and epistemology.

3.5 Hypothetico-Deductive Method

When we examine the procedure employed by Semmelweis, we find that it has three basic steps:
(1) It begins with a problem he confronted, namely, the high death rate due to childbed fever in the First Division of the hospital;
(2) Various tentative solutions (called hypotheses) are suggested as possible solutions to the problem;
(3) Those hypotheses are tested to see which of them, if any, is rationally acceptable; a series of five hypotheses were rejected in this manner and a sixth that occurred to him merely by chance came to be accepted on the basis of evidence.

Since it begins by identifying a problem and tries to find solutions to it, this model of knowing is sometimes referred to as the problem solving model. It is Karl Popper (1902-94), one of the best known philosophers of science of the 20th century, who made this method the corner stone of his philosophy. What is crucial to the method is the third step of testing a hypothesis. There are two things to be noted about the third step. The first is the distinction between discovery and justification we made in the last unit. No hypothesis is accepted just because it seems to offer a solution or because it was suggested by celebrity or because it was one's pet idea. The genesis of an idea is not important; what is important is the process of justification. Only a hypothesis that can withstand a rational scrutiny is accepted; others are rejected. Justification is a matter of logic. Consider for instance, what prompts Semmelweis to abandon the third hypothesis (that the deaths were caused by rough handling by the medical students). Upon scrutiny, Semmelweis found that the midwives who attended to the patients in the Second Division examined the patients in much the same manner as the medical students did in the First Division. Therefore, prima facie, the hypothesis is false. Even then he decides to test it. He reduced the number of medical students in the First Division by half on an experimental basis. Only when this measure failed to bring down the death rate was this hypothesis abandoned. The fact that acceptability of a hypothesis is a matter of logic is important in as much as much as it eliminates the danger of subjectivity that is involved in the search for certainty. It is for this reason that Popperian epistemology is "epistemology without a knowing subject", to use Popper's own words. It means that in checking whether a belief is true, the individual psychology of the believer is not important. A proposition can be checked for its truth, even if no one believes it.

The second thing to be learned about the third step is the kind of logic that is used. The reasoning is in the form of a hypothetical syllogism. If the hypothesis p (high mortality rate is due to rough handling by medical students) is true, then by doing action A (reducing the number

of medical students), an observable consequence q (low mortality rate) would follow. Action A is undertaken but the result does not follow. Therefore, the hypothesis is abandoned as false. The argument has the following form:

If p then, q; not q; therefore, not p.

Since this procedure involves deducing an observable consequence from a hypothesis and observing whether that consequence really obtains, this method is called the hypothetico-deductive (H-D) method. Leaving out other complexities involved in the actual practice of the method, the logical procedure seems simple enough. If a logically deduced observable consequence of the hypothesis does not obtain, then the hypothesis is to be considered false.

What needs to be carefully noted is that this procedure only helps us refute or falsify a hypothesis, and not to validate or prove it. For this reason, this method is also called the "falsification method". One might object: why should it be considered suitable only for refuting a theory? After all, did it not enable Semmelweis to accept the last theory as true? Yes, he did accept the last hypothesis. The hypothesis was that the high mortality rate in the First Division was caused by the "cadaveric matter" unconsciously introduced into the blood stream of the women by the medical students. It was assumed that this happened because the medical students came to examine the women without taking enough care to clean their hands properly after performing autopsy. If this assumption were true, it would solve the problem. But how to know if it is true? It had to be tested. In order to test this hypothesis he asks the medical students to clean their hands thoroughly before attending to the women. The result was a significant improvement in the situation and based on this observation, Semmelweis accepts this hypothesis as true. While this is what happened as a matter of fact, does the observation that clean hands led to a decline in the mortality rate logically prove the hypothesis true? Let us examine its logic. It has the following logical form:

If p then, q; q; therefore, p.

It does not take long to see that this is NOT a correct form of argument. Rather, it a fallacious argument, known as the fallacy of affirming the consequent. The following example will make the fallacy clear:

If it rains, the ground will be wet;
The ground is wet
Therefore, it has rained!

This, obviously, is not correct argument, as the ground could become wet in other ways than by rain! Somebody could have watered it. The point is that though a hypothesis is accepted as true for all practical purposes, it cannot be logically proved to be true. Even if numerous experiments have shown that the expected observational results follow, still the hypothesis is not logically proven, and cannot be proven either. At best, those numerous supporting observations can be taken as confirming the hypothesis; they give us evidence for considering the hypothesis true, but that is not the same as logically proving it. No true statement can be logically proved; but something that is not true can be shown to be false.

Check Your Progress II

Note: a) Use the space provided for your answer
b) Check your answers with those provided at the end of the unit

1) Briefly explain the contextual continuity between sciences and epistemology.

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2) Briefly describe the H-D method

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3) Why is it impossible to prove a scientific hypothesis?

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3.6 Methodological Continuity between Sciences and Epistemology

At the heart of methodological continuity lies the reflexivity of the knowing process. It begins with the assumption that we already have some knowledge. We examine that knowledge with a view to discovering the cannons and principles through which we have come to possess it. In other words, by examining what we already know, we come to understand the method of knowing. And by applying that method we can learn more about the world.

But what we have learned about the method of knowing can be applied not only for knowing more about the world; it can also be applied to the process of knowing itself. It is for this reason that Quine's description of naturalized epistemology as "science self-applied" is a good one. The idea of epistemology as self-application of method is very important in the light of the second crisis of epistemology we have discussed, namely the internal conflicts in epistemology. We saw that although modern epistemology aimed at settling disputes regarding truth and knowledge, it ended by creating more disputes within its own ranks, like a malfunctioning village *panchayat*. Therefore, if epistemology is to perform its assigned task, it must first of all put its own house in order. It is trying to put its own house in order that epistemology discovers the value of methodological continuity. Since epistemology aims at settling cognitive disputes, to the extent that epistemology itself makes controversial knowledge-claims, the method it applies to others must be applied also to itself. The perennial demand,

"Physician heal thyself!" lies at the heart of methodological continuity between sciences and epistemology.

If naturalized epistemology is a matter of applying the method used for knowing about world to the process of knowing itself, what is that method being applied? Although we have considered the H-D method is some detail and tried to say that epistemology can also learn from it, we should not go to the other extreme of identifying epistemology with the H-D method. There are also differences. Therefore, we should not take the "continuity" of method to mean "identity" or "sameness" of method. What continuity implies is that there are significant similarities in the methods of knowing. While there could be differences in the various methods of human knowing there is a core dynamics of the knowing process that is common to the different methods. It is this dynamics of knowing that is that is indicated by methodological continuity.

The core dynamics of the H-D method was spelt out in terms of the three steps we enumerated: finding a problem, suggesting possible solutions, and testing them. An important difference between epistemology and science is that epistemology is theory of knowledge of all kinds, whereas science is one kind of knowledge. Being a theory of knowledge applicable to different kinds of knowledge, we should not expect epistemology to follow exactly the same method that is followed by one kind of knowledge (science). Keeping this basic difference in mind we can reformulate the three steps of involved in H-D method in the following manner:

1. Clarifying the problem: In the case of Semmelweis the problem was very clear. It concerned the high rate of deaths in the hospital. But epistemology, being the general kind of inquiry it is, the problem are often not very clear; very many difference issues are often mixed up. Therefore, there is abundant need for analysis and clarification so as to find the exact problem for which a solution is sought. To take simple example, we often talk about the problem of truth. But there is no one problem of truth; there are several. Is the issue the meaning of truth (What is truth?) or whether a given statement is true (Is it true that water has been found on the moon?) or the criterion for deciding something to be true (On what basis shall we decide whether a given statement is true?). The second question is an empirical one and the philosopher's concern is with the other two. But in a given context, one must be clear as to which of the two is being dealt with. This calls for clarity. This is only an example. So too with other epistemological problems.

2. Describing the phenomena: Once a problem is identified, there are some phenomena that are relevant to that particular problem. A phenomena is something that is available to all, either by looking out or by looking into one's consciousness. These relevant phenomena need to be described and the irrelevant ones kept out. Something similar is there in H-D method too. In the given example of Semmelweis, the phenomena relevant to the problem include the fact that the death rate in the other Division is lower, there are no reports of epidemic in the town, mortality rates among the "road birth" cases are low and so on. All of these are external facts. But in epistemology there are likely to be also phenomena that are not external, but to be found only by looking within consciousness. Philosophers have always been experts in looking into one's consciousness. But the speciality of naturalized epistemology is that it looks for the phenomena from whatever source it can find, its attention to outside sources, including various sciences. This makes naturalized epistemology inherently an inter-disciplinary affair.

3. Finding a coherent account of the phenomena: This corresponds to the testing of a hypothesis in the H-D method. Semmelweis could predict observational consequences of the hypotheses he was testing. But there is hardly has any place for prediction in epistemology. In its place epistemological theories need to be tested by checking whether the theory is able to give a coherent account of the relevant phenomena. A theory that is able to account for all the phenomena must be accepted; others improved or even rejected.

But this is not a matter of coherence between beliefs, as coherentist method of justification suggests. Rather, it is a coherence of phenomena where phenomena are understood as non-controversial observational data available either through the senses or the mind. Thus we see that there are similarities and differences between the methods of sciences and epistemology.

3.7 Some Implications of Naturalized Epistemology

One result of forgoing foundational ambitions is the acceptance of the fallibility of knowledge. What is accepted as true in science today may be replaced by something else tomorrow. Popper would say that the scientific theories are like a building built on piles erected in a swamp. We stop drilling the piles deeper, "not because we have reached firm ground" but because "we are satisfied that the piles are firm enough to carry the structure, at least for the time being." This can be said of other kinds of knowledge too. Fallibility of knowledge, then, is one of the major implications of contextual continuity.

A second implication concerns the goal of epistemology. Having accepted that human condition is like that of Neurath's sailors in the sea, naturalized epistemology cannot hope to rebuild the whole edifice of knowledge anew as the foundationalists hoped. What does it seek to do then? Popper would say that the central problem of epistemology is the growth of knowledge, not that of confronting sceptics. This is related to the reflexive character of epistemology we have mentioned: reflecting upon what we already know we discern the dynamics of knowing and then applying that dynamics to what is not known, we increase our knowledge.

Although confronting sceptics is not its primary task, naturalized epistemology does not shy away from that task. But it does not consider global scepticism, where everything can be put to doubt at once, as a serious option. This follows directly from the acceptance of contextual continuity.

Check Your Progress III

Note: a) Use the space provided for your answer
b) Check your answers with those provided at the end of the unit

1) Briefly explain the methodological continuity between sciences and epistemology.

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2) Naturalised epistemology is inherently inter-disciplinary. Explain.

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3) What are some of the implications of naturalized epistemology?

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3.8 Let us Sum Up

Naturalized epistemology is best seen as an attempt to deal with the crises faced by modern epistemology. As opposed to the method of *a priori* armchair reflection promoted by the moderns, naturalized epistemology looks at the practice of scientists and seeks to learn lessons from that for knowing in general. Although the initial versions of naturalism focussed almost exclusively on the relationship between cognitive psychology and epistemology, a broader view takes sciences and epistemology as continuous with each other.

3.9 Key words

Cognitive dispute = a dispute or a difference of opinion regarding the truth of a knowledge claim

Foundationalism = the idea that the whole body of our knowledge can be built up or justified from the beginning without assuming any prior knowledge. This view is opposed to the coherentist view.

Coherentism = the view any justification of beliefs is done by relying on some set of beliefs that are taken for granted as true. It opposes the foundationalist idea that we can get rid of all our beliefs and begin building our knowledge from the beginning.

Phenomena = plural of phenomenon, something that is observable and therefore, non-controversial. Observation may be done either through the senses or the mind.

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3.11 ANSWERS TO CHECK YOUR PROGRESS

Check your progress I

1) Examining the long history of the empiricist attempts to rebuild the body of scientific knowledge in a foundationalist manner, Quine comes to the conclusion they have failed. He suggests abandoning such attempts and re-conceiving epistemology in a new way, as a factual inquiry into how we come to have our understanding of the world from the sensory stimulations we receive. This is a question to be investigated by psychology, and not a matter for armchair speculation. Such a view of epistemology goes against the view that epistemology provides the foundations for sciences; on the contrary epistemology becomes dependent on the sciences.
2) The two forms of naturalism are Replacement Naturalism and Cooperative Naturalism. The main issue between them is whether empirical psychology is to be seen as taking the place of epistemology or as merely contributing to it. Replacement naturalism suffers from an inherent circularity where science is sought to be validated on the basis of the findings of those very sciences. Hilary Putnam pointed out another serious problem that it eliminates the normative or evaluative dimension of epistemology altogether. Cooperative Naturalism does not seek to replace epistemology with psychology. It holds that while evaluative questions are essential to epistemology, empirical results from sciences are important and useful for making progress in addressing evaluative questions.
3) James Maffie gives a broad characterization of Naturalised Epistemology, according to which the distinguishing feature of naturalized epistemology is the continuity between epistemology and science. It is a version of Cooperative naturalism, and does not advocate replacing epistemology with the sciences. Of the various kinds of continuity he

finds between science and epistemology, the most important are methodological and contextual.

Check your progress II

1) Contextual continuity is the idea that epistemology, like science, does not start with rock bottom foundations that presupposes no other beliefs. On the contrary, both sciences and epistemology are embedded in specific contexts and hence have their presuppositions. Naturalized epistemology, then, does not seek to rebuild the whole of human knowledge from a few absolutely certain beliefs, as the foundationalists attempted to do. Rather it begins by taking for granted a lot of beliefs that are not problematic. Taking all such beliefs for granted, it focuses upon beliefs that are problematic with a view to resolving their problematic character. Since naturalized epistemology does not begin with a zero point, it retains some features of coherentist justification. According to an imagery made popular by Otto Neurath, the epistemologist is like voyager in a ship in the middle of the sea. When he notices that ship is leaking, there is no way in which he can come to shore and repair the whole boat or get a new one. All that can be done is to repair it even while remaining in it. For that he stands on planks that are relatively healthy and try to replace other parts that are leaking. So too, with our knowledge: standing on planks of relatively unproblematic knowledge we try to replace the parts that are problematic.
2) Hypothetico-Deductive (H-D) method is a method employed in scientific inquiry. It involves three steps. (1) It begins with a problem that is identified and then (2) suggests various hypotheses to resolve the problem. (3) These hypotheses are tested on the basis of observations that are deduced from them. If the derived observation is indeed available, then the hypothesis accepted as likely to be true, although it will have to be confirmed by further tests. However, if the derived observation does not occur the hypothesis is rejected as false on the basis of the following valid argument form: If p then q; not q; therefore, not p. (If the hypothesis p is true, then by doing action A an observable consequence q would follow. Action A is undertaken but the result does not follow. Therefore, the hypothesis is abandoned as false. The heart of the H-D method, in other words, is the process of falsification or refutation of a hypothesis rather than verification or proving of it.
3) It is impossible to logically prove a hypothesis such a proof would be based on a fallacy, the fallacy of affirming the consequent. It has the following form: If p then q; q; therefore p. The fallacious nature of this argument form can be seen from the following example:

   If it rains, the ground will be we;
   The ground is wet
   Therefore, it has rained!

   This, obviously, is not correct argument, as the ground could become wet in other ways than by rain! The point is that though a hypothesis is accepted as true for all practical purposes, it cannot be logically proved to be true. Even if numerous experiments have shown that the expected observational results follow, still the hypothesis is not logically proven. At best, those numerous supporting observations can be taken as confirming the hypothesis, which is not the same as logically proving it. We may accept something to be true and may not want further evidence but that does not mean that it is logically shown to be true.

Check your progress III

1) Methodological continuity is the idea that the methods of inquiry followed in the sciences and in epistemology is continuous with each other. At the heart of methodological continuity lies the reflexivity of the knowing process. By examining what we already know, we come to understand the method of knowing. This method can, then, be applied to the process of knowing itself. It is for this reason that Quine considered naturalized epistemology as "science self-applied". Such self-application of method is important for overcoming the internal conflicts occurring in epistemology. Continuity is not to be taken as sameness. Epistemology being the theory of knowledge of all kinds, we should not expect it to follow exactly the same method that is followed by one kind of knowledge (science). What continuity implies is that there are significant similarities between the methods followed.
2) The method of naturalised epistemology begins with the identification and clarification of the problem being dealt with. Then it goes on to describe the phenomena relevant to that problem. A phenomena is something that is available to all, either by looking out or by looking into one's consciousness. Philosophers have always been experts in looking into one's consciousness. But the speciality of naturalized epistemology is that it looks for the phenomena from whatever source it can find, its attention to outside sources, including various sciences. This makes naturalized epistemology inherently an inter-disciplinary affair. After familiarising oneself with the relevant phenomena, epistemology tries to give a coherent account of them.
3) One of the major implications of naturalizing epistemology is the acceptance of the fallibility of all knowledge. What is accepted as true in science today may be replaced by something else tomorrow. Popper would say that the scientific theories are like a building built on piles erected in a swamp. We stop drilling the piles deeper, "not because we have reached firm ground" but because "we are satisfied that the piles are firm enough to carry the structure, at least for the time being." Fallibility of knowledge, then, is one of the major implications of contextual continuity.

   Another implication concerns the goal of epistemology. Having accepted that human condition is like that of Neurath's sailors in the sea, its goal can no longer be rebuilding the whole edifice of knowledge anew Instead, it has a much more limited but tangible goal: the advance human knowledge.

   But naturalized epistemology does not shy away from confronting all sceptics. It does not consider only global scepticism, where everything can be put to doubt at once, a serious option. This follows directly from the acceptance of contextual continuity.

UNIT4 PERCEPTION NATURALIZED

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4.0 OBJECTIVES

Having learned about the naturalised epistemology, especially the methodological continuity between sciences and epistemology, we shall try to apply the method so as to see how it works in practice. This unit has the following objectives:

- Application of method
- Demonstrate the inter-disciplinary character of the method
- Suggest an up-to-date theory of perception

4.1. INTRODUCTION

We saw that Quine's idea of naturalized epistemology as "science self-applied" is particularly significant in the background of the internal conflicts in epistemology. Although epistemology seeks to sit in judgment over disputed questions of truth, in reality it ends up engendering even more disputes and contentious claims! One such topic is perception. Philosophers, especially from the seventeenth century, have spent an extra-ordinary amount of time discussing perception. The reason for such preoccupation with perception is not far to seek. This was the time when theology lost its crown as the queen of sciences to the more empirical sciences. These new disciplines, in the final analysis, were dependent solely on sense experience for getting information about the world around us.

Such intense focus on perception gave rise to various theories ranging from George Berkeley's *esse est percipi* (to be is to be perceived) to G.E. Moore's defence of common sense. Given the variety of competing theories, perception is an excellent candidate to which naturalised epistemology can legitimately say, "Physician, heal thyself!" It is also a fit candidate in as much as it comes at the intersection of various disciples like philosophy, psychology and phenomenology, to mention just a few. We shall apply, therefore, the principles and procedures of naturalised epistemology to perception to see what theory of perception is adequate to the phenomena relevant to the problem of perception.

4.2 WHAT IS PERCEPTION?

Perception tends to get defined in two different ways: either in terms of the senses or in terms of immediacy. It is commonly associated with the kind of knowledge we get about our

surrounding world through our senses –seeing, hearing, touching, tasting and smelling. (Although there is a tendency to think of perception solely as vision, knowledge by means of any of the five senses is understood to be perception). It is for this reason that perception is defined in terms of the senses as sense-experience or sensory knowledge.

While this definition is true for the most part, it is not perfect. What about our awareness of ourselves? What about our awareness of our own inner states, like knowing that I am angry? None of the five senses are involved in the process. Still they are considered perception. What is typical of perceptual knowledge, then, seems to be that they are immediate. They are not mediated through other knowledge, as in inference or testimony. Defining perception as "immediate knowledge" than as sense-knowledge has the added advantage that a group of phenomena that is known as extra-sensory perception (ESP) or what the Indian traditions call yogic perception also gets included as perception, since they are also immediate knowledge. (Please note that yogic perception is not necessarily be limited to yogis; yogis have merely developed an innate human capacity to a greater degree).

Although perception is best understood as immediate knowledge, practically all discussions of perception in Western philosophy are done in the context of empirical knowledge. Considered in this manner perception tends to get defined as knowledge by means of senses or introspection. We shall limit our discussion of perception to such knowledge which is immediate and ordinary, and leave out discussion of ESP. We shall further limit our discussion to visual perception, for the most part, although much of what is said in this connection will also be applicable to others.

4.3 AN OVERVIEW OF THE DIFFERENT THEORIES OF PERCEPTION

Since naturalized epistemology is suggested as a remedy for the internal conflicts in epistemology where instead of resolving cognitive disputes it tends to give birth to more disputes by producing more contentious theories, it is appropriate that we begin with a review of the different theories we have already studied in an earlier unit.

Let us begin with realism. **Realism** is not primarily an epistemological theory, but an ontological theory, a theory of what exists. It holds that the world exists independently of our knowledge of it. The world of objects (apples and oranges, stones, and trees) and events (earth quakes and tsunamis, sunrise and sunset) exist irrespective of whether anyone perceives them or not. Of course there are some objects and events that would not exist if there were no human consciousness to bring them about (e.g., tables and chairs, wars and weddings). But underlying such artefacts and events there is a world that is independent of each and every human being. This is realism, as opposed to idealism which holds that the world exists only in relation to consciousness.

Our concern is with realism as a theory of perception, a mode of knowing. The first component of realism as a theory of perception is ontological realism or the view that there exists a mind-independent reality to be known. As a theory of knowing, realism must explain how we come to have knowledge of that mind-independent reality. How does the ontological reality become an epistemological reality? It becomes epistemological reality when a knower becomes aware of it or when the ontological reality somehow enters consciousness. This, then, is the second component in any knowledge: awareness or entry of an independent reality into the consciousness of the knower. Awareness, obviously, is not something material. Aristotle therefore described perception as a matter of the mind taking the form of

the object without its matter. When I am aware of a cat on the mat, it is not the material cat that enters into my mind but only its immaterial form.

If what enters into consciousness is true knowledge of what is out there, then what has entered into consciousness must indeed represent what is out there. It must indeed be the cat there on mat right now, not my memory of a dead cat that used to sit there or my imagination of a kitten that may sit there in the future. In other words, my awareness or representation of the mind-independent reality must correspond to the reality. Correspondence theory of truth, therefore, is a third component of realist theories of perception.

Such correspondence between what is in consciousness and what is in the world can come about only if my awareness is somehow be causally related to the perceived reality. Such causal connection between knowledge and reality is a fourth element of the realist theory of perception. So far there seem to be no serious problems. Problems and contentious theories of perception enter the picture along with foundationalism of the modern period. It begins with the common place observation that our perception is not always reliable, that our senses do deceive us sometimes. This is a common observation known to all, but it did not have the kind of implications it came to have with the modern thinkers. From this observation they go on to doubt *all* perceptual knowledge and asks whether *any* of our perceptions is reliable. The many theories of perception that cropped up during the modern period are, therefore, attempts at securing perceptual knowledge against that imaginary danger.

One of the solutions the foundationalists proposed is called **indirect realism**. It says that that our knowledge of the world is indeed secure; it is just that our understanding of the nature of perception is mistaken. We think that when we perceive something, we get directly connected to the world outside and therefore when we find a wrong case of perceptual knowledge, we begin to doubt all perception. Therefore, instead of thinking that perception connects us directly to the world, we must think of it as connecting to the world only indirectly. **Direct realists,** on the other hand, deny that our perception is indirect. We know the objects in the world directly.

Both are realist theories as both accept all the four doctrines above: mind-independent reality, awareness of that reality, a causal connection between mind and reality and the correspondence theory of truth. The main difference is that the indirect realists deny that there is any direct causal link between the end product of perception (awareness of the cat) and the mind independent reality (cat). Reality does have a causal impact on us, but what it produces is not the awareness of the object cat. What it produces is some kind of an intermediary object. These intermediaries are given various names: idea (Locke and Berkeley), impression (Hume), sensation or sense-data and qualia (twentieth century empiricists). From these intermediaries we infer to the nature of the object. Therefore if there is a misperception it is our mistake; there is no problem with perception. Perception can be trusted to give us true knowledge of the world. Direct realists find that in their attempt to defend perceptual knowing the indirect realists go too far in saying that it is not the objects but the intermediaries that are perceived. We perceive a cat and not the sensation or idea of a cat.

Reaction against the anti-realist dangers of indirect realism came in the form of the **causal theory** of perception, which is an emphatic affirmation of the causal component of realism we have noted.

With the advent of computer technology realism takes on to a **computational** model of perception. Like other realists, they too treat perception as cognitive episodes that begin with certain sensory input and ends with a cognitive output. They differ from other realists in their attempt at theorizing about the process that happens in between the input and the output. In this matter they are somewhat similar to the indirect realists, except that they analyse the intermediary process as a computing process done in the mind to give an output in the form of a perceptual cognition.

Constructivism is another theory of perception. It differs from all the realist theories in the attention paid to the active dimension of perception. The basic idea is that the perceiver's conceptual and linguistic scheme determines, shapes, and/or constructs his or her perceptual experiences. The active contribution of the perceiver often takes the form of an unconscious interpretation in terms the conceptual and linguistic scheme available to the perceiver. The phrase "seeing-as" (seeing as a cat, as a dog etc.) is often used as short hand for this kind of interpretation. Because of this basic difference between constructivism and realism, constructivism is often called "anti-realism" (in spite of the fact that a constructivist like Hilary Putnam has explicitly repudiated that he is not anti-realist and has called his position "internal realism").

Note: Foundationalism and coherentism are theories of justification (epistemology) whereas realism and constructivism are primarily theories of reality (ontology) and only secondarily theories of knowing. But foundationalist justification goes together with realist ontology whereas coherentism goes with constructivist ontology.

Check Your Progress I

Note: Use the space provided for your answer

1. What is perception?

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2. What are the four components that make theory of perception realist?

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3. Name the prominent theories of perception.

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4.4 CLARIFYING THE PROBLEMS OF PERCEPTION

William Alston has observed that historically, philosophers "have been concerned both with the epistemology of perceptual belief and the nature of perception. Under the latter heading we can distinguish two main interrelated problems, (a) what is it to perceive an object (event,

situation, state of affairs), and (b) what is the nature and structure of perceptual experience (consciousness).” This is correct. There are two different problems that philosophers of perception have been concerned with: the justification of perceptual beliefs and advancing theories about the nature of perception. The two are clearly different. One comes from the realization that any of our individual perceptions could be mistaken. From this realization, it asks the legitimate question as to how justification of individual perceptions may be done. Justification of perceptual beliefs, therefore, is justification of individual beliefs. Inquiry into the nature of perception, on the other hand, is about that whole mode of knowing called “perception” as distinct from inference, testimony, memory, and so on.

If justifying individual perceptual beliefs is like a football referee attempting to confirm that a scored goal was indeed a valid one that did not violate any of the rules of the game, examining the nature of perception is like examining the rules themselves to see whether the rules are appropriate or they need to be changed. No individual referee, of course, is allowed to do that. There could arise a rare occasion in the course of a game where the rules are not clear or and where the referee has to make an ad-hoc decision, but if there were no rules in place, there would be no point in refereeing itself! To use the Wittgensteinian terminology we saw in one of the earlier units (Block 3, unit 2), justifying an individual perceptual belief is an activity done within a language-game whereas examining the nature of perception is to scrutinize the language-game itself. This important difference is neglected by the traditional foundationalist approach. When the foundationalists move from the finding that individual perceptual beliefs could be mistaken (and therefore, needing justification) to thinking that all perceptual beliefs may be mistaken, they are like the bird that finds strong winds an obstacle to flying to thinking that it could fly without any air at all! (This imagery is from Kant).

The difference between an individual perception and perceptual consciousness is not merely a matter of greater generality. An individual perception is a cognitive episode, something that happens to us. As episodes, they begin with the surface irritation of our senses and end with the claim to have perceived something. In computer terminology, a perceptual episode begins with an input into the processor and ends with an output. Perceptual consciousness, on the other hand, are not merely about episodes happening in consciousness; perceptions are also activities we do, not passivities inflicted on us. As activities, perception does not begin with an input, but much before; nor does it end with a propositional output. A hungry animal, for example, looks for food before it receives any sensory input. And its process of perception does not end with the awareness “There is food available”, but goes on to act on the awareness. This point of perception as an activity is typical of perceptual consciousness than perceptual episodes.
The two problems –the problem of justifying perceptual beliefs and the problem of the nature of perception—are, thus, clearly different. Once the differences are recognized there is nothing so very mysterious or profound about the justification of individual perceptual beliefs as to require too much attention from philosophers. All of us have the experience correcting perceptual errors, but that is always done by standing within the larger perceptual boat. They can be corrected as long as the reliability of perception as whole is not doubted. When any individual perception needs to be corrected we do so by looking more carefully, or getting someone else to take a look. This is the significance of accepting contextual continuity, as integral to naturalized epistemology.

One might think this to be an anti-climax to centuries of discussion on perception. But it is not. Philosophers on either side of the battle really do not have any alternative to this procedure, as far as the problem of justifying perceptual beliefs is concerned. Their conflict concerns the second problem, i.e., the nature of perception. And it is in this area that

naturalized epistemology must prove its worth. But modern epistemologists, both foundationalists and coherentists, miss the point that there are two different problems involved. From the finding that some of our individual perceptions have been mistaken in the past, the foundationalists go on to distrust the whole of perception and its derivatives (which amounts to all knowledge!) and seek to secure all of them at once by looking for some infallible foundations. They give birth to the realist theories of perception, including the causal theory. In doing so, they neglect the important differences between the two problems and in the process seek to play the incompatible roles of refereeing the game according to rules on the one hand, and not recognising any prior rules that make the game possible, on the other. The coherentists, finding the impossibility of a "God's eye view" that does not stand on any prior beliefs, go to the other extreme and come up with constructivism, which seems to be purely a matter of coherence. If the foundationalists proceed as if there were no rules that constitute a game, the coherentists proceed as if rules alone make a game and the skill of the players is of no consequence! Conflating the two different problems, therefore, lead the rivals to engage in theorising without paying attention to the total context of the game.

Naturalized epistemology challenges both to distinguish the two problems and properly identify the problem they deal with. Both are challenged to see that although they talk in terms of justification, in as much as their concern is about perception, their points of conflict concern the nature of perception and not the justification of individual perceptual beliefs. Once this clarity is achieved, it is possible to focus on the real problem of perception, which is not that of justifying perceptual beliefs but of finding the nature of perception. This, in turn, enables us to look at the phenomena relevant to the problem. Focussing on the nature of perception, then, let us proceed to consider the phenomena relevant to it.

4.5 PHENOMENA RELEVANT TO PERCEPTUAL CONSCIOUSNESS I

Following Alston's lead, we can see that the nature of perception includes (a) the nature perception and (b) the nature of perceptual consciousness. The former is mostly a conceptual matter of analysing how the word "perception" is used by normal language users. For this purpose, it is enough to focus on individual perceptions as identifiable episodes in consciousness. These episodes begin with a sensory input and end with a cognitive output. The realists analyse the conceptual structures involved in the process. Perceptual consciousness, however, is not just a conceptual matter; it is also empirical and phenomenological; it begins before there is any input and does not end with the output. This is what the constructivists focus on. Thus when the problem of perception is clarified as the nature of perception, we get two different sets of phenomena that need to be taken into account.

As far as the concept of perception is concerned, we have already seen them while dealing with the definition of perception as well as in our discussion of realism. But we shall see them now, in terms of the phenomena relevant to a theory of perception.

1. *Mind-independent Reality*: Think of the distinction between seeing a cat and imagining a cat. The main distinction is that in the one case, there is a cat that exists independently of my consciousness and in the other case there would be no cat if I stop imagining. Ontological realism therefore, is a constitutive phenomenon of the very idea of perception.
2. *Determinacy or Stability*: The independently existing reality is experienced by us not as "reality" or "world" in the abstract but always perceived as individual objects or events that have a determinate character. Our perceptual experience is always an experience of the determinate reality of apples and oranges, having this shape and that

colour and so on. We experience the world as having a pre-fabricated character, so to say. We do not cut up the world into apples and oranges; we find them given as such. We do not make stones hard and cotton soft; it is given to us so, and so on.

3. *Awareness*: This, too we have seen, is constitutive of the concept of perception.
4. *Immediacy of awareness*: while discussing the definition of perception we noted this. This makes the difference between my being a witness to an event and hearing about the event from somebody else. If this phenomenon were to be absent we would not call it perception. (There are some complications as to what could be considered immediate: if my watching a game on TV immediate mediate? But it is a problem as to the definition of immediacy and not questioning immediacy itself.)
5. *Causal connection*: This is another conceptual requirement that for an episode in consciousness to be considered an instance of perception, that episode must have causal links with the mind-independent reality in the sense that if reality were to be different that episode would not take place. An episode where causal connection is missing would be an instance of imagination, hallucination, etc., but not an instance of perception. Causal connection is necessary but not sufficient condition for perceptual experience.
6. *Fallibility*: It is an undeniable fact about our perceptual experiences that some of the episodes we took to be veridical might subsequently turn out to be false. The main difference between the direct and indirect realists is a matter of how to explain this phenomenon.

4.6 PHENOMENA RELEVANT TO PERCEPTUAL CONSCIOUSNESS II

The realist theories of perception, although called *theories* of perception, remain focussed on individual perceptions than on finding the nature of perceptual consciousness as such. Therefore, they tend to neglect the wide range of phenomena that are relevant to perceptual consciousness, especially the range of phenomena that are related to perception as an activity done by the perceiver, which begins before any sensory input and does not end with the cognitive output. Such phenomena related to the activity of perception include the following:

1. *Perceptual search:* Not only do we see things that are presented to us but also look for things that interest us. I can go to a library and search for a particular book; go into a crowd and look for a particular face.
2. *Selective attention:* Our attention is selective. It is commonplace that "the information available during each moment in time...is vast and complex. We are constantly bombarded by a myriad of sights, sounds and smells. Yet most of these go unnoticed... It is only a fraction of these that comes to be noticed by the perceiver." Therefore, "the causal sequence set off by the proximate stimulus determines what can be perceived in any given conditions, but not necessarily what will be perceived." Consequently, even when all objective factors, including the physical position of the perceiver, are kept constant, the resulting perception could vary. Therefore, different people could see different things in the same given environment.
3. *Perceptual polymorphy:* Like selective attention, this also points to the fact that even when there are no variations in the objective factors, the perceptual synthesis could vary. However these are two different phenomena. Selective attention refers to the fact that the perceiver has a choice in receiving the stimulus input from the environment; polymorphy points to a different fact that even the same input can lead to different perceptual output. The most common examples that illustrate this

phenomenon are ambiguous pictures like the duck-rabbit or the old woman-young woman. But the phenomenon is not restricted to ambiguous cases. Consider the following example given by Alva No . I say "Nein!" If the person who hears me knows German and the context is right, what I said will be heard as "No". If the hearer knows only English and the context is different the same word will heard as nine (9).

4. *The Hidden Side*: When we see an object we receive sensations only of the side that is exposed to us. But we are also aware that it has other sides and that these will be available to us if we move around; they are available to other perceivers who are seeing it from other sides.
5. *Veridicality and Corrigibility*: The foundationalists focus on the fallibility of perception and seek security against that possibility. But fallibility is only part of the story. The amazing fact about perception is not its fallibility but the fact that most of our perception is true (veridical). Even a mistaken episode of perceiving is recognized as an instance of misperception only after having corrected it or in the process of correcting it, such that the perception as a reliable mode of cognition is never in doubt.

Check Your Progress II

Note: Use the space provided for your answer

1. What, according to William Alston, are the issues that philosophers have been concerned with in perception?

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2. Clarify, briefly, the two different problems of perception.

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3. Describe one phenomenon from each from the two groups that are seemingly opposed to each other.

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4.7 CHOOSING A THEORY OF PERCEPTION

Having seen the different theories of perception, now is the time for epistemology to do its proper job and adjudicate between them by giving credit where it is due correcting what needs to be corrected. We have already seen the main points on which the different theories differ. The main difference is between realism and constructivism. One focuses on perceptual

episodes and emphasises the receptivity of the mind for such episodes to occur. The other focuses on perceptual consciousness and the active contribution of the perceiver before, during and after the episode. Compared to this major difference, the differences between different versions of realism are more like shadow boxing. Indirect realism and the computational model agree in giving some kind of an active role to consciousness during the cognitive episode, but remain silent on any activity before or after the episode. They remain focussed on particular episodes of perception because even while proposing a "theory" of perception, they make no distinction between a perceptual episode and perceptual consciousness.

Once the problem of perception is properly identified as the nature of perceptual consciousness, it becomes clear that we cannot really choose between realism and constructivism, between receptivity and activity because both are characteristic features of perceptual consciousness. Therefore, both have to be combined in some fashion. Cognitive psychology takes both into account when it talks about two kinds of processing that goes into perception. One is called "top-down" or theory-driven processing where our prior theories and concepts influence what is perceived. The other is called "bottom-up" or data-driven processing which is controlled by what is given to the senses from outside. A philosophy of perception, then, needs to combine both processes. This could be done either by adopting realism and making appropriate adaptations to it or by adopting constructivism and adapting it. Alvin Goldman in his *Epistemology and Cognition* (1986) takes the former path and makes modifications to the correspondence theory of truth. We shall explore how a constructivist approach could be adapted to include basic realist insights.

We adopt a constructivist theory, with its active role to the perceiver because that makes it easy to explain such phenomena as perceptual search, selective attention, polymorphy and so on. The real problem for constructivism is to find an explanation for such hardcore phenomena as determinacy and immediacy. Take immediacy. If perception is immediate, something that happens to us, then it cannot be a matter of our construction or interpretation. Moreover, in most cases of perception we are not aware of any constructing activity on our part. When the problem is spelt out in this manner, the solution suggests itself. Our lack of explicit awareness of activity is not an argument against perception being an active construction. There are other instances of activity within our bodies (such as digestion), of which we are not explicitly aware. Perceiving process could also be a similar, unconscious activity. It may still be asked: if there is a mediating process of this kind, how can it be considered immediate knowledge? The answer is that immediacy is being used here in a comparative sense: compared to other means of knowing like inference or testimony, perception is immediate.

4.8 COGNITION AND EVOLUTION

A more difficult problem is that of determinacy. Constructivists seem to say that it is we who cut up an indeterminate external reality into determinate entities like apples and oranges. This cannot really be the case. A rock is hard not because perceivers find it so; perceivers find it hard because rock is indeed hard! Humans, at the most, could have found the words for certain features exhibited by reality itself. These are features of reality to which we have given names. Constructivism can be adapted to accommodate this phenomenon by making some modifications. Constructivists can be more explicit in acknowledging that our constructions are based on the features exhibited by reality. What they need to claim is not that reality is devoid of features that are independent of the perceiver, but that it has too many features from which the perceiver picks and chooses some to the neglect of others. In other

words, perceivers selectively attend to some features and not to others. Moreover, what gets selected and gets left out in most cases of routine perception is not done at the conscious level. This fits with the unconscious processing mentioned in connection with immediacy. The blind nature of such processing is found in Jerry Fodor's book, *The Modularity of the Mind.*

Such unconscious processing is explained by evolutionary theory, which speaks about the cognitive niche of different organisms. The basic idea is that each kind of organism picks up the information it needs for its survival in a given environment. In the process of evolution the cognitive mechanism of an organism has developed in a manner such that certain features of a given surrounding are picked up by it while the other features are left out. There is evidence to show that what the bats and bees pick up from the same surroundings is not exactly the same as that which is picked up by humans. The cognitive niche of the human animal is called "mesocosm". It is our evolutionary heritage that we unconsciously pay attention to some feature of the surrounding and not to others. Not all our perception is not of this kind. But this accounts for that inner core of our perceptual knowledge that is more or less common to us as a species. It is the same core that comes into play in radical translation. Here, then, we have an excellent explanation that combines the active contribution of the perceiver without denying the realist intuition that what is perceived is determinate mind-independent reality.

An additional advantage of this theory of perception is that the perennial conflict between *a priori* knowledge favoured by the rationalists and *a posteriori* knowledge favoured by the empiricists gets resolved. *A priori* knowledge is inner core that is our evolutionary heritage. But even what is ontogenetically (in terms of the individual) *a priori* in this manner is phylogenetically (in terms of the species) *a posteriori*.
Another important conclusion follows from this manner of combining realism and constructivism. When we take all relevant phenomena into account human knowledge turns out to be not a mirror of reality at all. Rather, knowledge is like a map. Just as there could be various true maps of the same territory (political, geographical, industrial etc.), so too with human knowledge.

Check Your Progress III

Note: Use the space provided for your answer

1. A good theory of perception needs to combine realism and constructivism. Why? How does cognitive psychology take both into account?

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2. How can a constructivist theory of perception account for the determinacy of perception?

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3. How does evolutionary theory help us to resolve the conflict between a priori knowledge and a posterior knowledge?

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4.9 LET US SUM UP

Naturalized epistemology sees epistemology as "science self-applied". It means that the manner in which it attempts to settle cognitive disputes about other realms should be applied also to resolve internal disputes within epistemology. Perception is a fit candidate for this treatment as it is a field of various theories. When the method of naturalized epistemology is applied to perception not only are we able to find where the different theories have gone wrong (conflating different problems leading to the neglect of the relevant phenomena) but also acknowledge what is true in those different theories. In the process, not only does epistemology become a matrix of inter-disciplinary collaboration but human knowledge comes to be seen as maps of reality, rather than a mirror of it.

4.10 KEY WORDS

Ontology is the study of what there is.

Mesocosm is a term used in evolutionary epistemology. It stands for the cognitive niche of the human species, that technologically unaided world of perception that falls in between macrocosm and microcosm. It is an evolutionary heritage that bears the stamp of our struggle for survival.

Ontogenesis or Ontogeny = a term in biology referring to the growth and development of an individual organism.

Phylogenesis or **Phylogeny** = stands for the evolutionary history of an organ or some part of an organism. Contrasted with ontogeny, phylogeny is always in relation to a group or species and not of individual development.

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Unit 4 deals with notion of perception in philosophical discourse detailing on the main theories of perception are direct realism, indirect realism, causal theory and constructivism. The unit elaborately deals with the issue of perception and the consciousness involved in the question of perception.

1. Perception tends to get defined in two different ways: either in terms of the senses or in terms of immediacy. Defined in terms of the senses it is called sense-experience or sensory knowledge. But this definition would exclude important instances of perception such as our self-knowledge. Immediate knowledge, therefore, is used as an alternative definition. Empiricists tend to define it as knowledge by means of senses or introspection.
2. Realism in perception has four components: (a) an ontological component that says there exists some reality that is independent of the consciousness of the knower (b) an awareness component that says that the ontological reality becomes knowledge only when the knower becomes aware of it (c) a causal component that says that the relevant awareness is caused by the ontological component (d) a truth component that says that there is a correspondence between the awareness and the ontological components.

Answers to Check Your Progress II

1. According to Alston philosophers have been concerned two issues in perception: one is the epistemology (justification) of perceptual beliefs and the other is nature of perception. The nature of perception in turn, can be seen as dealing with (a) the nature of perceiving something or with (b) the nature and structure of perceptual consciousness.
2. Justification of individual perceptual beliefs always presupposes certain beliefs about the nature of perceptual consciousness. The former is like a football referee attempting to confirm that a scored goal was indeed a valid one that did not violate any of the rules of the game. The latter (examining the nature of perception) is like examining the rules themselves to see whether the rules are appropriate or they need to be changed. Another difference is that individual perceptual beliefs are taken to be episodes that happen in the consciousness of the knower whereas perceptual consciousness includes the activity of the knower before, during and after the perceptual episode.
3. Many of the phenomena from the two groups are at least seemingly opposed to each other. Take for example the phenomena of determinacy and polymorphy. On the one hand determinacy tells us that objects in the world have a determinate character (hard, soft, round etc). On the other hand, there is perceptual polymorphy where one and the same object may be perceived in more than one way. This is best seen in the case of puzzle pictures, thought polymorphy is by no means limited to them.

Answers to Check Your Progress III

1. Once the problem of perception is properly identified as the nature of perceptual consciousness, it becomes clear that we cannot really choose between realism that pays attention to the receptivity of consciousness and constructivism that pays attention to the activity of consciousness because both are characteristic features of perceptual consciousness.

Therefore, both have to be combined in some fashion. Cognitive psychology takes both into account when it talks about “top-down” or theory-driven processing and “bottom-up” or data-driven processing.

2. Constructivists seem to say that it is we who cut up an indeterminate external reality into determinate entities like apples and oranges. This cannot really be the case. A rock is hard not because perceivers say so. But constructivism can be modified to accommodate this phenomenon. First modification is to acknowledge that reality need not be indeterminate; rather it has numerous features and the perceivers pick and choose certain of those features, leaving out the others. A second modification is an acknowledgement that much of this process of picking and choosing involved in ordinary perceptions is an unconscious process. It is part of our evolutionary heritage. Other creatures have perceiving mechanisms that pick up features which we do not.

3. Evolutionary theory will have no difficulty in accepting some knowledge as *a priori*, as far as the knowledge of any individual is concerned. This is part of our evolutionary heritage. But even what is ontogenetically (in terms of the individual) *a priori* in this manner is phylogenetically (in terms of the species) *a posteriori*.